DOCUMENT RESUME

ED 035 203 EF 003 364

AUTHOR	Moore, Harold E., Ed.
TITLE	Planning for Education in Litchfield Park in 2000 A.D. Seminar Addresses.
INSTITUTION	Arizona State Univ., Tempe. Bureau of Educational Research and Services.
REPORT NO	ES-Bull-21
PUB DATE	Jan 67
NOTE	78p.
AVAILABLE FROM	Bureau of Publications, Arizona State University, Tempe, Arizona 85281 ($2.00)
EDRS PRICE	EDRS Price MF-$0.50 HC Not Available from EDRS.
DESCRIPTORS	Changing Attitudes, City Planning, *Community Planning, *Community Relations, *Educational Innovation, *Educational Planning, Higher Education, Recreational Facilities, *Social Environment, Social Influences

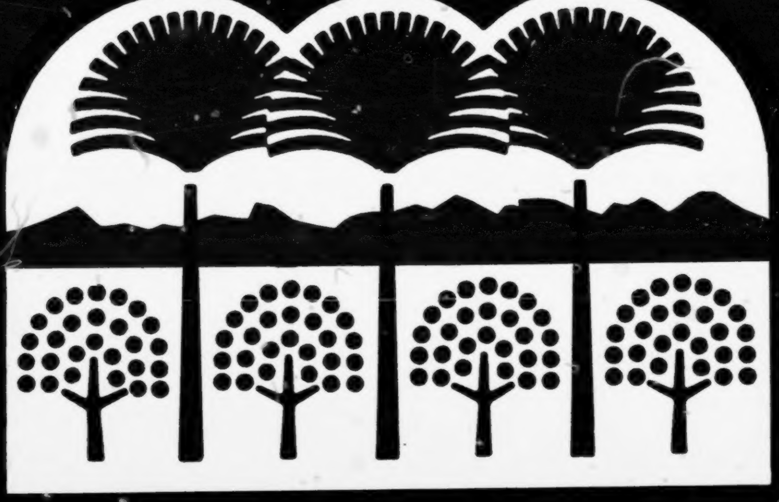
ABSTRACT

The world of 2000 A.D. is considered in terms of important educational implications. Many ideas are presented serving as a basis for study regarding purposes, programs, and commitments for all future educational institutions. The contributors presented significant insights into the relationship of community to educational planning, characteristics of an adaptable school system, educational planning for a new school community, and the school as a primary institution. (RK)

ED035203

EF 003 364

COLLEGE OF EDUCATION · ARIZONA STATE UNIVERSITY · TEMPE · PUBLISHED BY THE BUREAU OF EDUCATIONAL RESEARCH AND SERVICES · R. MERWIN DEEVER, DIRECTOR



PLANNING FOR EDUCATION IN LITCHFIELD PARK IN 2000 A.D.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

SEMINAR ADDRESSES

HAROLD E. MOORE, Editor

EDUCATIONAL SERVICES
BULLETIN NO. 21

COLLEGE OF EDUCATION,

G. D. McGrath, Dean

COLLEGE
OF
EDUCATION
PUBLICATIONS

Research Services Bulletins
Educational Services Bulletins
Miscellaneous Publications

Dr. Merwin Deever, Co-editor
Dr. Thomas H. Metos, Co-editor

ED035203

PLANNING FOR EDUCATION IN LITCHFIELD PARK IN 2000 A. D.

Seminar Addresses

HAROLD E. MOORE
Editor

Educational Services Bulletin No. 21
Published by the
Bureau of Educational Research and Services
Merwin Deever, Director
College of Education
Arizona State University
Tempe, Arizona
January, 1967

"PERMISSION TO REPRODUCE THIS COPYRIGHTED MATERIAL BY MICROFICHE ONLY HAS BEEN GRANTED BY Arizona State University * TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE U. S. OFFICE OF EDUCATION. FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER."

* Bureau of Educational
Research and Services
[Merwin Deever, Director]

Copyright 1967 • *Arizona State University Bureau of Publications* • *Price: $2.00*

TABLE OF CONTENTS

Page

FOREWORD

Merwin Deever, Director, Bureau of Educational Research and Services, Arizona State University 4

INTRODUCTION

THEME OF THE SEMINAR: PLANNING FOR EDUCATION IN LITCHFIELD PARK IN 2000 A.D.
Harold E. Moore, Professor of Education, Arizona State University 5

ADDRESSES

A HOPEFUL LOOK AT EDUCATION IN 2000 A.D.
George B. Leonard, Senior Editor and West Coast Editorial Manager, LOOK Magazine 9

THE RELATIONSHIP OF COMMUNITY TO EDUCATIONAL PLANNING
Carol R. Lubin, Community Planner, Simon Enterprises, New York City 24

CHARACTERISTICS OF AN ADAPTABLE SCHOOL SYSTEM
Walter Crewson, Associate Commissioner, The State Education Department, Albany, New York 38

EDUCATIONAL PLANNING FOR A NEW COMMUNITY
Cyril Sargent, Professor of Education, City College of New York 46

THE SCHOOL AS A PRIMARY INSTITUTION
Eli M. Bower, Assistant Chief, Consultation and Special Services Branch, National Institute of Mental Health 55

APPENDICES

APPENDIX A
SEMINAR AGENDA 71

APPENDIX B
SEMINAR ROSTER 73

APPENDIX C
OBJECTIVES FOR THE DEVELOPMENT OF LITCHFIELD PARK, ARIZONA 75

FOREWORD

The requirements and challenges that have been placed upon education in recent years have been tremendous. However, they are being increased in geometric proportions in planning for the complex and demanding world of the future.

One of the most unusual opportunities and challenges in the educational field today is the Litchfield Park Study, the purpose of which is to develop a design for the entire educational program for a planned city that will have a population of 100,000 within the next 35 years. The Bureau of Educational Research and Services of Arizona State University has accepted this challenge with great interest and also with great humility. As a prelude to the educational design for Litchfield Park, a high level seminar was conducted to consider the world of 2000 A.D. and to discuss its important implications for education. The seminar provided many interesting and stimulating ideas and should serve as a basis for serious study regarding purposes, programs and commitments for all educational institutions of the future. Each contributor has presented significant insights in this document.

Merwin Deever, Director
Bureau of Educational
Research and Services
College of Education
Arizona State University

INTRODUCTION

HAROLD E. MOORE

How *does* one plan for education in the year 2000 A.D.? This was the question the staff at Arizona State University asked itself. The staff had been charged with the responsibility of developing a master plan for the educational and facility programs in the new Litchfield Park city because by 2000 A.D. Litchfield Park will have a population of approximately 100,000.

This unusual opportunity to do such planning developed when the Bureau of Educational Research and Services at Arizona State University entered into a contract with Litchfield Park Properties, Inc., and three school districts. These districts — one high school and two elementary — were affected by the plans of the Litchfield Park Properties, Inc., a subsidiary of Goodyear Tire and Rubber Co., to build a new city. The contract required the development of a master plan for education in the area.

From the outset the planners of the new city (including the officials of Litchfield Park Properties, Inc., and the Victor Gruen staff of city planners, who were employed by them) knew that education was a fundamental ingredient in the development of the new area.

The school boards and school administrators in the affected school districts were faced with growth in the next few years almost beyond their power to cope with, or even to comprehend fully. Therefore, they entered into the idea of developing a master plan for their areas with deep concern and an appreciation that a rare opportunity was presented to do sound long-range planning.

From the outset all persons concerned admitted that they did not have the answers to what education would and should be like a quarter century hence. The tendency to be governed by past experience, rather than to seek *real* answers, regarding *what to teach and how schools should be organized,* as well as how these questions were related to *what society might be like* in 2000 A.D., was the dilemma faced by the Arizona State University staff.

To answer some of these questions, but more particularly to develop a frame of reference from which to work, it was agreed that the staff should give some concentrated study to the problem, hopefully with the assistance of experts. The relatively limited budget for the total study led the staff to seek the aid of the Educational Facilities Laboratories, Inc., in financing a week-long seminar. This organization, recognizing the timeliness of sound planning for the several new cities developing throughout the country, provided the support for the seminar.

The Arizona State University staff, local school officials, a representative of the United States Office of Education, the city and county planners and a number of carefully chosen experts in the field of education and planning spent a week "on site" — thinking, planning and dreaming of the kind of education our society of 2000 A.D. will require.

It was not the purpose of the seminar to develop the master plan. Rather, one purpose was to develop a "climate" of thinking that would aid the Arizona State University staff in developing the master plan. More particularly, its purpose was to lay a foundation for cutting through traditional and stereotyped ideas and programs which tend to dominate education and to stifle progress.

The seminar was developed around presentations by the visiting consultants, followed by questions and discussion. The staff of Litchfield Park Properties, Inc., and its corps of city planners presented to the group their plans and hopes for the new city. One consultant, an outstanding journalist, challenged the group by pointing out the reluctance of educators to change, and he maintained that by 2000 A.D. "education will be the main purpose of life, an essential of living." A consultant who is a community planning expert related her experiences in another new city. A third consultant described the characteristics of a flexible school program which is designed to adjust itself to changing conditions and the demands upon it.

An expert in urban studies dealt with organizational problems and their relation to a dynamic society. A consultant from the field of mental health stressed the importance of school and community environment as a factor in effective education, stressing particularly such *relationship* factors in a growing and crowded society.

The heart of the seminar was the exchange of ideas, the challenge for creative thinking and the growth that comes as a result of an informed and dedicated group living together for a week and concentrating on a single problem — what should education be like in 2000 A.D. and how does one plan for it?

This manuscript presents only the formal papers of the consultants, lists the participants and indicates the structure of the seminar. Admittedly, the participants profited from both the papers and the discussion, but it appeared important to preserve and make available at least the formal papers. It is to this purpose that the manuscript is directed.

Development of the master plan for program and facilities for the new area is well under way. Population studies indicate that the new city and its supporting area may at saturation have a population of 300,000. A community center already is developing in Litchfield Park. The school districts are becoming increasingly aware of the problems they will face. What appeared to be only an idea a few months ago is beginning to take shape, and those who have the responsibility for developing the master plan for education are grateful to the consultants who assisted them in trying to answer the question — "How does one plan for education in 2000 A.D.?"

LITCHFIELD PARK STUDY STAFF

The study staff for the Litchfield Park educational system included these five persons from the Arizona State University. They are (l. to r.) Mr. Melvin Zinser, Graduate Assistant; Dr. Harold E. Moore, Professor of Education and Coordinator of Litchfield Park Study; Dean G. D. McGrath, College of Education; Dr. R. Merwin Deever, Director, Bureau of Educational Research and Services; and Dr. Howard Demeke, Associate Professor of Education.

A HOPEFUL LOOK AT EDUCATION IN 2000 A.D.

GEORGE B. LEONARD

In a time of dramatic technological and social change, United States public education, for the most part, exhibits a remarkable resistance to innovation.

This meeting has been called so that we may plan schooling in Litchfield Park in the year 2000 A.D. If, however, the rate of educational change over the 35 years between now and then will be the same as during the past 35, we simply might turn the meeting over to the technicians, the consolidators, the time-and-motion men. There would be, in such a case, no need here for innovators.

The schools my daughters attend now, in 1965 — if we put aside window dressing, peripheral niceties and a few new names for familiar practices — resemble nothing so much as the school in which I daydreamed through second grade in 1930. That was a year when the United States was 44 per cent rural; when most children lived near grandparents, uncles, aunts, old family friends; when social structure, if not fixed, was at least amenable to perception and analysis; when leisure for the masses seemed a distant panacea, not a present threat; when only 29 per cent of Americans had finished high school and only a fortunate three per cent were college graduates; when most men could count on a lifetime in the same occupation, if not the same job; when technology could be summed up proudly in a tri-motored airplane made of corrugated aluminum, and when my favorite comic strip was a far-out fantasy called Buck Rogers.

That also was a year when most United States second graders were gathered with some 30 others of the same age in separate rooms presided over by teachers who presented them — *en masse* — with facts and techniques.

Today, of course, Buck Rogers is more history than fantasy. This is a year when men walk in space; a year, as you all know, when every basic human condition listed above has been altered radically. This also is a year when most United States second graders are gathered with some 30 others of the same age in separate rooms presided over by teachers who present them — *en masse* — with facts and techniques.

Unquestionably, today's teachers are better educated than those of 1930, and today's schools are measurably "better" — which is to say, they teach the same general class of material to a broader cross-section of our youth with somewhat higher net results, as indicated on verbal and symbolic tests. But this small net increase has been accomplished only at the cost of incommensurate gross effort, an effort that is turning many of our children into joyless little drudges and afflicting others with what may become a lasting aversion to intellectual activity.

Indeed, 1930's schools might have prepared children better for life in 2000 A.D. than would today's (although neither is adequate to the challenge). Unfortunately, the operational effect of so-called educational reform during the past eight to ten years often has run directly counter to the enhancement of human experiencing and the creation of a society of lifelong learners.

"What can we do?" cry the academicians. "Our machines are getting ahead of us. People can't keep up." The cry is easy justification for paralyzing despair. That those aspects of technology dealing with inorganic matter and energy should at first outstrip individual and social achievement should surprise no one. A single human organism in a learning situation is far more complex, embodying infinitely more variables, than NASA's entire Satellite Communications Network with all systems at "Go." Given this complexity, and inhibited by a natural reluctance to experiment with human lives, educators tend to cling to teaching methods that have been developed, hit or miss, over the centuries — even though the gross inefficiency of these methods is easily apparent. Then, too, education always must be to some extent conservative, serving the stability of a culture by passing along its median knowledge, values and ways of perceiving.

Still, U.S. education's current resistance to change — at a time when a revolutionary improvement in human functioning is imperative, during a period when even such staid institutions as banks and insurance companies have been altered beyond recognition — is so surprising as to demand some explanation.

Where are the reformers who might have prodded U.S. public education into real motion? Since the Russian Sputnik in 1957, the most prominent of them, significantly, have stood firmly in the camps of educational conservatism or reaction. The reactionary critics — the Rickovers, Bestors and others of the "Basic Education" stripe — have been almost entirely unconstructive. They have helped create a climate in our schools that, increasingly, is being recognized as a major scandal. In the June 4, 1963, issue of LOOK, I wrote:

> Some educators fear that the present school atmosphere of pressure and near hysteria is the worst possible environment for

making learning a pleasure. Part of the blame for this must go to those critics of American education who rode high in the years following Sputnik. At best, they demanded better teacher education, an end to extremes of permissiveness and an emphasis on the basic subjects. At worst, they engaged in meaningless diatribes about terminology ("progressive," "life adjustment," etc.) and made vague and threatening demands for "excellence" and "rigor" — which they rarely if ever defined in operational terms. Most incredible of all was their claim that it matters not in the least "how to teach" if the teacher knows "what to teach."

Teachers and school administrators were badly frightened by the critics' attacks. What could they do? In all the semantic nonsense assaulting them, the teachers found one prescription that lent itself to action: "Get tough!" Many, many teachers did just that. Often without improving the quality of the material or the presentation, they doubled their demands on students. It is doubtful that the students are learning more than they would with *half* the work intelligently and imaginatively assigned. What they are mainly learning is to despise school and all intellectual activity.

The critics I term conservative — men of good will and good credentials — are vulnerable to perhaps an even more serious charge. Science writer Arthur C. Clarke has written of the failure of imagination and the failure of nerve. This is what prompted the leading establishment scientists of an earlier day to proclaim, for example, that it would be forever "scientifically impossible" for an airplane to fly across the ocean or for a man-made object to reach the moon. Notable among today's critics who may be guilty of these failures is the gray eminence, James B. Conant. This official establishment reformer, with enviable instruments of research and dissemination at his disposal, regularly grinds out proposals for administrative and procedural reform, all the while treating the basic structure and content of U.S. education as if it were built to last a thousand years. In writing that monument to the status quo, *The American High School Today,* Dr. Conant simply *forgot* the most pressing high school problem of our times; that is, the big city slum school. Conant in effect confessed this incredible oversight in his belated *Slums and Suburbs.* A high school student who made such an omission in a term paper would expect a failing grade. But teachers who are devoted to true reform would have to flunk Dr. Conant on the more serious failures proposed by Arthur C. Clarke, as noted above.

Amid all this educational conservatism and reaction, a few less inhibiting voices have been raised. Men such as Paul Goodman, with his impassioned descriptions of what is stultifying and dehumanizing about our schools, have begun to find an interested audience among a segment of university faculty and students. These men are at their incisive best in telling what is wrong with present-day education, especially at college level. They are less incisive when it comes to what should be done to change things. These men — from, if not of, academe — tend to perceive education and the world in academic, literary culture terms. Distrusting science, they fail to credit recent experimental work in human learning that shows real reform as practical, not visionary.

So we are left with a ponderous, slow-moving institution lacking innovative leadership within or without. Does this mean we should all go home? Will the schools of 2000 A.D. differ as little from today's schools as today's schools differ from those of 1930? The answer to both questions, in my judgment, is emphatically no.

Unless some as-yet-unknown way is found to stop or drastically slow the march of technology, it will be literally *impossible* for the schools of 2000 A.D. to resemble those of today. A common literary myth fabricates a quality called "human nature" that in some mysterious manner remains untouched by a changing environment. This quality cannot be found in the real world. The human organism invariably does respond to a changing environment — perhaps belatedly, perhaps in ways that do not add to the sum of human joy, perhaps self-destructively. But it does respond. The question for us is how, through institutions such as schools, it can best respond to increase happiness and the fulfillment of the human potentiality.

Today's schools lag far behind the exponential curve of technological and social change, but they cannot do so long. The business of catching up, make no mistake about it, will become increasingly difficult and painful the longer significant movement is resisted. Already educators are feeling the strain of maladaptation at pressure points brought to mind by such phrases as "The culturally deprived," "early reading," "delinquency," "dropout," "racial imbalance," "draft rejection," and "vocational training." Angry, frustrated teachers hardly know where to turn for advice. Minor refinements in teaching technique or curriculum reform of the same old curriculum will not help them. Nor can the educational pressure points be shored up by anything less than a major overhaul. The overhaul will come. Just when cannot be said, but it will be long before 2000 A.D.

II

The fish-like creature that first pulled itself out of the water onto the primeval mud could not (given voice and reason) predict the marvelous shapes and capabilities of its progeny. But it doubtless could describe some of its immediate needs in a new environment — among other things, a more effective way for extracting oxygen from air and some better aids for locomotion. As mankind enters a new environment of total technology and global interconnection — perhaps as rude an entry as from water to air — we are in no position to talk about distant destinations. But we can and must plan for needs as immediate as those of the year 2000.

Which way will societies turn? Some, bewildered by the seeming complexity, interdependence and formlessness engendered by rushing technology, may opt for short term gain in social organization; they may increase authoritarian structure and punitive control. (In such a case, we would need to spend little time planning schools; a battery of already available chemical, electrical and conditioning techniques — plus some old standbys such as close order drill — would considerably simplify the educator's task.) But let us hopefully assume that our society will move toward less authoritarian, less brutal, more subtle, more pleasing legal and social sanctions ("freedom," in other words). Let us assume a continuation of the nuclear *detente* with a reasonable degree of world peace and stability. And let us assume, in this nation, the survival of the present capsular family with its excellent adaptability, rather than the live-in educational dormitory, as the basic unit of child rearing.

Place these assumptions against the projected curve of scientific and technological advance, look at the best and most up-to-date U.S. schools of 2000 A.D., and we may predict that:

1. The present system of educational priorities, giving the most money, attention and status to the upper grades, will be completely overturned.

2. The present subject breakdown of knowledge and techniques will be reshuffled. Many new areas of learning, having to do with aspects of human functioning that are now neglected or completely ignored, will enter the schools. A significant proportion of what will be taught in 2000 A.D. does not even have a commonly accepted name today.

3. The traditional one-teacher-30-students-presentation situation no longer will exist. There will be no exams as currently conceived and utilized, and no regular, 50-minute class periods. Most of the commonly-agreed-upon factual knowledge of our culture, as well as the most useful techniques and skills, will be learned through programs, probably presented by electronic devices and requiring little help from teachers. Teachers will spend most of their time in individual or seminar instruction. Ways will be worked out to utilize the most wasted educational resource in our system — the capability of students to teach other students. At the end of 14 years of public schooling, tomorrow's students would outscore today's college graduates, even on the severely limited and unperceptive achievement tests used today. The university will have a new function: higher education will not stand apart from life, but it will be the chief substance, the very center of existence, the communication-work-recreation

center of each community. The demarcation between "student" and "nonstudent" will blur and finally fade away; every member of the community will be, to one degree or the other, a member of the university.

III

To discuss the first of these points, we do not have to project forward to the year 2000. A drastic change in educational priorities (as Gardner Cowles, Editor in Chief of *Look*, pointed out in an address to the National School Boards Association) is not only clearly indicated but long overdue. What is the present situation? Because the *results* of inadequate schooling show up most dramatically in high school, many of our corrective efforts — in people, time and money — are concentrated there, or else left over for college remedial courses, for social agencies or for the police. Let us look at present consequences.

Remedial English in U.S. colleges costs more than $10 million a year — and is almost always futile. Futile, too, and expensive beyond calculation, are those high school composition courses where teachers expect, at most, a single paragraph free from internal inconsistencies, gross misspellings and obvious grammatical vulgarities. And yet every first-rate expert has pointed out that a person's basic skill with the English language takes shape, to a large extent, during the early elementary grades or sooner.

Take another case: We are spending enormous and ever-increasing sums on vocational education. And yet men who have probed this problem most deeply have told *Look* interviewers that the money could do more good in early elementary education. If a child learns early to read and write with confidence and ease, if he understands the principles and uses of mathematics, he can later take a general technical curriculum in high school — the Richmond (California) Plan, for example — and master the specifics of his trade or specialty in short, company-sponsored courses.

Forget the human suffering inherent in dropout, delinquency and unemployability for a moment if you can, and examine the cost of these conditions in dollars alone. The Children's Bureau of the Department of Health, Education and Welfare tells us that juvenile delinquency is costing the American society between $200 and $300 million a year. This conservative estimate includes only money spent handling young offenders, not preventive measures or wages lost due to absence from the working force.

I cite these sums merely to suggest some financial gains possible if we reduced the number of human failures now falling out of our public schools. (The educational, personal gains will be clearly apparent in tomorrow's schools.) Too often, present measures resemble first aid rendered on an inevitably dangerous battlefield. Bandages and splints are applied as the casualties appear. Little is done to prevent casualties from happening.

What can we do? I have interviewed experts in varying fields — neurology, social psychiatry, behavioral psychology — and have come up with a firm consensus: the *younger* the human being, the more effective and lasting will be any effort to teach him. The educational influence that may be exerted on a five-year-old in one hour's time takes tens, hundreds or even thousands of hours at age 18.

No sane investor in humanity would pour the most dollars and effort into the upper end of our student's age scale, especially since any constructive change accomplished at the lower end will accrue to our advantage throughout all the school years that follow. Yet, too often, that has been the course we have followed. Almost without exception, education reformers — from Rickover to Conant to Goodman — have revealed their fascination with the high school years. Their interest rises as the possibility of effective reform plummets.

Last-minute remedial measures help, but do not cure. And, again, they are expensive. As things now stand, the U.S. Office of Education tells us, it would cost an extra five billion dollars to prevent five million young people from dropping out of high school in the next five years and to provide remedial help for the one student out of five who will make it through high school without having learned enough to land a skilled or decent job.

I do not suggest that we ignore the battlefield casualties of our present system or that we turn our attention from the important high school years. But piece-meal, remedial measures should not pass for basic reform.

Long before the year 2000, our top graduate students in education and the behavioral sciences will vie for positions at the hot end of a grand experiment in human potentialities. These positions will be in the grades from pre-kindergarten (which will be offered everywhere) through second grade. The pay, prestige, possibility for exciting research and opportunity for service will be unequaled. (It goes without saying that the present predominance of female teachers in elementary schooling no longer will obtain.) The future will see an increase in the proportion of professional educators in the early grades. Even now, during a transition period when effective methods of eliciting greater use of human potentiality are just being worked out, the early grades could benefit more than any others by adding approximately one teacher for every three now assigned. That would be a start, an act of faith in the future.

If the need for shifting educational priorities is obvious and crucial, the need for a shift in *what is taught* may be less obvious, but even more crucial. Education today, as throughout most of the history of Western Civilization, concerns itself primarily with the verbal-symbolic-conceptual-rational aspects of human functioning. This aspect has proved to be crucial in bringing man from his past primitive state in nature to his present primitive state in total technology. The verbal-rational has served man well in his conquest of the physical world and his successful drive to organize ever-larger social entities. It has made *Hamlet,* colonial empires and the H-Bomb possible. It is not, however, the whole of human existence, nor will its current primacy in education prove appropriate in the world of 2000 A.D. Indeed, there are many signs that it is quite inappropriate now. Whether or not, as it seems, human unhappiness is on the rise, it is fast becoming more difficult to handle.

As the population swells and the world becomes smaller, we are confronted with a crisis that has been postponed all these years by isolation, lack of communication and the frontier: Human maladjustment, alienation, fragmentation, plain unhappiness — call it what you will — quickly and easily can destroy the world. The entire globe, operationally, now constitutes a single village. Kennedy and Kruschshev, chieftains of rival village factions, stood each other off with the entire village population looking on — hating, fearing, suffering. If survival is the final, coldly-scientific basis for all human morality and values, we have come at last to a time when the matter of human happiness, of making men whole, becomes a matter of survival.

Why is man fragmented? Simply because the environment, the institutions of the modern world provide contingencies for properly educating only a fragment of his capacities, mainly the verbal-rational. There are others. (Shortly before his death, Aldous Huxley called for education in what he termed the "non-verbal humanities.") While human capacities may be categorized any number of ways, I shall use a breakdown suggested by Michael Murphy, whose Esalen Institute is exploring frontiers in education. Murphy's categories are:

1. Verbal-rational

2. Interpersonal

3. Kinesthetic-sensory

4. "Depth"

Verbal-rational schooling by no means will be de-emphasized in the year 2000, but, since (as we shall see later) this area can be taught a great deal more effectively, plenty of time will be gained for currently-ignored categories of learning, starting with the interpersonal.

Interpersonal relating not only can be taught, it is being taught, every day, to every child. But it is being taught badly, hit or miss, by family, school, society. That it can be taught more effectively and felicitiously, *in a systematic manner,* is currently being established in a number of experimental programs. (For examples we may turn to work of the Human Development Institute in Atlanta, Ga., the Western Behavioral Sciences Institute in La Jolla, California, the Laboratory Pre-School of the University of Washington in Seattle, the Esalen Institute in Big Sur, California, and the Mental Research Institute in Palo Alto, California.) By the time the year 2000 rolls around, it most likely will seem quaint, if not maddeningly short-sighted, that schools once tackled the New Math before turning to that aspect of life that is the foundation-stone of all else.

The fragmented child and man of today is a sensory illiterate, a somatic ignoramus. He can extract square roots, but cannot sensitively see, hear, feel. "Visual illiteracy leaves man helpless and undiscriminating in the barrage of pictorial messages to which modern communication techniques subject him," said Stanford's Lorenz Eitner. "We must become more discriminating and give our critical attention to non-verbal as well as verbal meaning." To become whole again, man must learn again to understand — and use — his body and his senses. The arts of seeing, hearing, smelling, feeling, moving must be taught so that man can cope with and enjoy the rich new life promised him by affluence and leisure.

Perhaps even more important in future schooling are aspects of life that are still unnamed. These "depth" areas of human functioning bring to mind William James' memorable insight that "our normal waking consciousness, rational consciousness as we call it, is but one special type of consciousness, whilst all about it, parted from it by the filmiest of screens, there lie potential forms of consciousness entirely different. We may go through life without suspecting their existence; but apply the requisite stimulus and at a touch they are there in all their completeness, definite types of mentality which probably somewhere have their field of application and adaptation. No account of the universe in its totality can be final which leaves these other forms of consciousness quite disregarded."

James' insight gains scientific corroboration with every new probing of the central nervous system. Neurologist W. Ross Adey, with his colleagues at the Space Biology Laboratory of UCLA's Brain Research Institute, is currently discovering unsuspected electrical happenings deep within the brain. These happenings make the generally-accepted computer-like model of the brain seem primitive. So subtle, complex and ubiquitous are the newly-found mechanisms of thinking that they suggest an almost incredible hypothesis: *The ultimate creative capacity of the brain may be, for all practical purposes, infinite.*

All of which promises a rich educational future and demands a hard look at current practices. Anyone who is willing to open his eyes can see the relentless attrition of the spontaneous, the joyful, the creative as our children go up the step-by-step ladder of grades. This attrition is barely tolerable now. In the year 2000 it would be catastrophic. In a study on the childhood patterns of genius, psychologist Harold G. McCurdy of the University of North Carolina finds that great world geniuses characteristically have "a rich efflorescence of phantasy" during childhood. He concludes that our public school system is, in a sense, a vast experiment in reducing fantasy and the conditions that lead to it " and should, accordingly, tend to suppress the occurrence of genius." Dr. Arthur F. Corey, executive secretary of the California Teachers Association, remarks that "every child has much creative ability and a natural tendency to use it. We fear or avoid the thing we do not understand and all too often the most precious capacities in human development are ignored, criticized or even punished."

We must find ways to stop suppressing the "most precious capacities."

But this is not enough. We must and will find ways to increase them. Today's children daydream to escape the boredom of irrelevant subject matter ineffectually taught. In the schools of 2000 A.D., we may not only allow but *teach* children how to daydream, how to increase the color and beauty of inner imagery, how to make the strange familiar, the familiar strange, how to rearrange the everyday material of sensory input into wondrous new patterns and to experience states of consciousness now realized only by a fortunate few.

But even in organizing the familiar subject matter of the verbal-rational we limit ourselves. Neither the world nor the student is divided into the usual college academic departments. College students and faculty may be liberal politically, but educationally our colleges and universities are often bastions of conservatism — primarily because the departmental structure holds veto power over reform. Too often, faculty members are swayed more by the demands of their academic departments than by the human demands of their students.

The secondary and elementary grades need curriculum updating and other reform, and this needs the help of university scholars. But reform should not be accompanied by increased fragmentation of the student's world. It is hard to imagine anything worse for the future than an incursion of college-type academic specialties down into the lower grades — and yet that may be one of the side effects of the current New Curriculum movement. Educators can best serve the future, not by breaking the world and the student apart, but by putting them back together; by finding connections, not divisions, in the body of knowledge.

Basic changes in learning methods and institutional structure will have to accompany any true revolution in education. We are seeing the beginning of these changes in schools scattered here and there around the nation. The first casualty of revolution, as I have suggested earlier, will be the classroom or lecture-room presentation system. This method has been described as a way of getting material directly from the professor's notebook to the student's notebook without touching the student's mind — an old saying that has found backing all the way from Dewey's insights to Skinner's experiments.

One of the best ways for a student to learn is for him to be placed in a highly responsive environment — one that gives him individual and timely responses at appropriate points along the learning process. The lecture situation is highly unresponsive — more so as the audience gets larger. Lectures presented on television are even worse, which explains why TV teaching, as now generally constituted, will never be the major component of an educational system. It is fine for drama, for certain complex demonstrations, and for introducing worlds, whether microcosmic or macrocosmic, that are out of reach of the student's senses. Responsive environments already are being developed: linear or Skinnerian programs, branching programs, Omar Moore's "talking typewriter," to name a few. Of course, the most responsive environment now available is the individual human tutor. Some day we may be able to provide even this — *for masses of students* — through a drastic reorganization of the instructional day.

The possibilities for future change cannot even be listed in a paper of this length. In any case, the specific method envisaged is not so important as an open-ended, experimental working attitude that sets high goals and is willing to keep trying alternatives until the goals are achieved and supplanted by constantly evolving new goals. Still, I think we may safely predict that by 2000 A.D. *commonly-agreed-upon* knowledge and skills may be learned individually with non-human devices, at many times the present effectiveness. By that time, computers should be sophisticated enough to handle and appropriately reinforce typed, printed or perhaps even oral student responses. One centrally-located school-system computer will be able to service hundreds of individual learning consoles simultaneously. This same computer will be able to do routine administrative work and serve as an information retrieval device. Eventually, though probably not by 2000 A.D., computers will be joined with the libraries and research institutes of the world, making all of man's symbolic knowledge available at many points of the globe.

But let us leave global technology and get back to school. With responsive, properly-programmed, individualized learning devices, there is good reason to believe that children will need no additional training in the basic techniques of verbal skills — reading, writing, spelling, grammar — after the end of first-grade level. This assumes education for all from pre-kindergarten, with special training for those from whatever slums may remain. Under this learning system, there will be no non-readers except for the severely brain-damaged (probably composing less than one per cent of our school population).

What I am saying is that the average child of tomorrow will read, at the end of what is now called first grade, as well as or better than the average sixth grader of today. Indeed, current experiments in the San Francisco Bay area with the Sullivan Programmed Reading method indicate that this already is possible, even with the rudimentary methods now available; so I am perhaps falling into the old trap of conservatism about human potentialities.

Let me stress that I am in no way suggesting students be rushed or pressed or forced. Indeed, we have seen that a really good learning program excites students to move ahead so fast that our only problem is keeping the startled teachers from holding them back. Furthermore, in the year 2000, there will be no *required* homework whatsoever. Homework (or should be call it homeplay?) will be offered as a *reward* for reaching certain points in learning. For example, elementary-age children will be allowed to check out novels or mathematical games to take home for pleasure. (*All* learning, of course, will be pleasure).

By the year 2000, educators finally will have realized that all healthy human beings can learn, and that only the method of teaching need be evaluated. Proceeding on this assumption, they certainly will give no exams or tests in the current sense. There will be random spot checks to evaluate the effectiveness of learning methods. And there will be periodic quizzes, given as games to the students, with the further function of raising the novelty level, an important consideration in education.

When teachers of that, hopefully, enlightened age look back on the present assign-and-test practice, they will find it hard to believe that it was ever associated in any way with *teaching*. Of course it is *not* teaching. It is primarily an invitation — given the present insane pressures for grades — to cheat. A recent survey conducted in two of New York City's top high schools showed that cheating is on the increase, especially among students near the head of their class who are pushing for Ivy League berths. Students may be morally wrong in cheating. Educationally they are quite right. If they get away with it, they prove that they have merit in coping with a poorly-designed learning environment, and that, therefore, they deserve to be admitted to a "tough," assign-and-test college where they can continue to do the same.

Instead of negative, primarily aversive tests, future schools will provide affirmative learning situations. Learning will be project-oriented. Starting as early as possible in an ungraded situation, probably as early as what is now second grade, students will be given projects. At first the projects will be extremely simple ones, taking as little as a week. Gradually the complexity and length will be increased, and students will have more and more say in choosing and devising their own.

By sixth-grade level at the latest, students will be spending about a third of each school day on their projects, which may take up to a semester to complete. They will work at their own pace, consulting at times with teachers and fellow students. About a third of the student's average day will be spent with individualized programming devices, through which he will get required verbal-rational cultural knowledge. (We may call this class of knowledge the "basics.") Certain required non-verbal education — visual, audio and tactile training, for example — may be facilitated by programs. And the programming devices also will be available for student research; or the student may use them to gain the "basics" of non-required subjects that he needs for his on-going project. The remainder of the day will be multidimensional and novel. Training in the interpersonal and "depth" capacities would look like game-playing to us old codgers from 1965. These "games" will be played by small peer groups, with or without teachers.

Here we add another dimension: education in 2000 A.D. truly will be an apprenticeship for living. There is no reason why older children should not spend a short time each day with younger ones, probably those about four years younger. Since the highest ratio of teachers per child will be provided in pre-kindergarten, tutoring by older children will not begin until kindergarten level, where fourth-grade-level children will spend about a half-hour a day in the one-to-one learning situation that is the pure gold of education. Fifth graders will tutor children of first grade level and so on. The tutoring will be mostly in the important non-verbal techniques. A waste of time for the older children? Far from it. This kind of teaching actually is the best possible learning.

The multidimensional portion of the school day, the final third, also will include, on an aperiodic schedule, kinesthetic training, music, art, films, drama, seminars, schoolwide meetings and *more* games.

When junior high level comes, will our brave new schools retreat back into the regular old school day, with separate courses in separate rooms on a regular 50-minute hour? Absolutely not. Learning experiments have shown that a regular schedule produces an extremely low learning curve, and a rather high looking-up-at-the-clock curve that scallops upward near the end of each period. These regular periods always have served the convenience of the administrator, not the education of the student. Anyway, we don't want to get the poor teacher trapped in that old-fashioned presentation situation.

What will English teachers, history teachers, biology teachers do? Will we have to phase them out? Hardly. Their jobs will become more important, more fascinating and far more satisfying, since they will, at last, be real teachers, not just assigners and testers. They will become seminar leaders and individual consultants to students whose projects need their specialized knowledge. They also will have the responsibility of working with behavioral specialists to update, evaluate and improve the computer-mediated program of basics in their own subject specialities. They will be joined by teachers of the new, non-verbal subjects — sensory and kinesthetic educators, interpersonal experts, specialists in the creative depth aspects of the human experience. Constant interaction between members of this rich and varied faculty will produce new insights and new curricula that we cannot possibly predict at this stage.

Will grades, too, disappear? Not entirely. Students must have some relevant feedback from their learning environment, some evaluation of their projects. The future grading system, however, will bear little relation to the present gross alphabet of abuse. There have been rumblings against the present system for years; they are growing louder. Last year, Professor Dwight Allen of the Stanford School of Education said that all students would be able to make at least a "C" average, and that the old standard of "A-1," meaning maximum effort and achievement, should be redefined. "If we define 'A-1' as maximum achievement with maximum effort then 'A-5' (a higher grade) should mean maximum achievement from our students with a minimum of their effort?"

By the year 2000, we should be able to go considerably beyond Professor Allen. At least 90 per cent of students should get what we now call "A." But that grade will not be used. On individualized programs, of course, students even today should make less than five per cent wrong answers. If they make more than that, something is the matter, not with the student, but with the program. In the future, students' projects (written reports, tapes, films, dramas, scientific demonstrations, kinesthetic programs, etc.) will receive evaluation, perhaps in the form of symbolic notation, but certainly in the form of helpful written and oral comments.

Innovation in higher education is the subject for another paper. Still, it might be said that the future uses of the university already may be seen in dim outline — in the fast growth of adult education as well as in college classrooms, where housewives and grandfathers join with 18-year-old freshmen. As I have suggested earlier, the lines between formal education and "real life" will continue to blur until they disappear. The university, reshaped toward the image of schooling already presented, will become a community center. It will offer several shades of "membership," from everyday participation to subscriptions to its "news service," which may be received in the home on electronic consoles.

Already, though not many journalists or college presidents realize it, the biggest "news" of our times is coming out of the institutions of higher learning — new scientific discoveries, new ways of putting together the matrices of past and current history, new means for apprehending and enjoying the stuff of sensory input, of interpersonal relations.

It soon will become clear that education no longer can be considered something one starts, then finishes. It is well on its way toward becoming a never-ending pursuit. By the year 2000 learning will not be thought of as part of life. It will be a main purpose of life, an essential condition of living. In the world of the future, man will discover that to go on learning, to go on communicating his learning to others, is a purpose worthy of man's enormous and ever-expanding capacities.

THE RELATIONSHIP OF COMMUNITY TO EDUCATIONAL PLANNING

CAROL R. LUBIN

The following does not attempt to anticipate the community institutions nor their relationships with the schools that will be developed in Litchfield Park. It is limited to the concepts that were used in the initial planning of the community institutions of Reston, Virginia, and an analysis of some of the problems faced there, in the hope that this experience may be of some value in forecasting the community institutions that will be needed in the future development of Litchfield Park.

Goals of Community Planning

All of us who have been struggling with the planning of community and educational institutions for new towns have generally similar goals. We hope to avoid, through pre-planning of community facilities and programs, many of the social and educational problems encountered in both the older central cities and the new suburban developments. The difficulties faced by metropolitan areas appear to be aggravated, if not caused, by outmoded or outgrown facilities and by programs no longer adequate to provide educational and cultural opportunity.

This seems to apply in varying degrees to existing facilities for the use of all age groups. Suburbs, and especially new developments in suburban areas, might be expected to innovate new programs especially designed to meet the needs of new residents. Unfortunately, in most instances, the initiation of such programs frequently must be delayed too long — until the residents of these communities are in a position to develop both the leadership and the facilities that make educational, cultural and religious programs feasible.

The first challenge to the community planners of the new satellite cities is to pre-plan programs and make advance provision for facilities, so that when residents first move in there are available community meeting places, schools, churches, libraries and cultural and recreational facilities as part of the basic structure of the new town. One aspect of the problem is to insure that the initial programs are sufficiently flexible to meet the different tastes, as well as needs, of residents of varied age and varied income.

The second challenge is to design the facilities for multi-purpose use so that there is adequate opportunity for varied programs from the outset. Close cooperation in the planning of schools, churches, community centers, art galleries, auditoriums, as well as golf clubs and riding stables, can save time and money by encouraging full use of each individual facility and by timing construction to accord with the growing needs of a "community in formation." And, incidentally, land frequently can be saved by dual use of parking and recreation grounds.

Obviously community planning — or at least pre-planning of programs — can be done in many ways, and the experience of new town planning in the United States is still too short to permit evaluation in depth. However, we already can recognize some successes and some mistakes which, at least at Reston, provide guidance for the next stage in planning, and may be useful to new towns that are just beginning their early planning.

When I began to work with the Physical Master Planners of Reston, I asked many of the outstanding experts in various fields of social and community planning if they had an ideal city in mind, and what they would do in the way of pre-planning if they had the kind of free hand that I had at the first stage. I was somewhat surprised to find that no one had thought this through, and there were very few blueprints for community programs or facilities that anyone wanted to present to me. I am sure that by the time two, or five, or fifteen or even twenty-five, of the present rash of new towns have operated in the United States for some ten to fifteen years, we will have a very different situation, and certainly by the year 2000 there will be a great many people who either know the answers or think they know them.

I am sure that, in any case, the development of community facilities will increase in number and scope, as will the role they play in the educational processes of people of all ages. A major part of community planning for the year 2000 certainly will have to take account of the increased amount of leisure — or rather saved — time and the resources that are, therefore, needed to enable individuals to make the greatest possible use of the opportunities thus provided. This will be particularly true in new towns where time is saved from commuting, and where recreational and cultural facilities can be brought close to living and working areas.

The first step, namely outlining the goals and identifying the planning concepts, is relatively easy. The harder part is to carry the planning process on from the establishment of goals to the development of useful facilities and practical programs. Here it is that the procedures being used by various new town planners differ. Some of the Reston experience may be compared with the early methods being experimented with by the staff of Columbia, the next and probably largest new town in the Washington-Baltimore metropolitan area.

Two basic differences in the planning and practical problems facing both towns may be of interest to other areas. First, and possibly most significant, are the differences in the geographic situation and social development of the areas in which Reston and Columbia are located. Columbia is in a rural county where educational, cultural and medical facilities must be built up almost from scratch. This has affected both the nature of the planning that has taken place and the timing of the beginning of construction. It was necessary for the developers of Columbia to begin their educational processes with the education of the County Board of Commissioners in order to obtain acceptance of the basic concepts of mixed use of land and of the value of high-rise apartment dwelling. In the course of this educational process, Columbia developed a detailed plan not only for the physical use of the land but also for the social institutions that they hoped to be able to develop on the land, provided that their zoning was authorized.

Planning in Cooperation with County Agencies

By contrast, we in Reston have the advantage of working in a forward-looking and rapidly growing county — with sophisticated, informed leadership. Consequently, after an initial period of difficulty of, I believe, much shorter duration than that of Columbia, it was possible not only to obtain acceptance of the Reston Master Plan, but to establish mutual respect and positive cooperation in all areas of planning. There is, moreover, a well organized and progressive county school system, with generally imaginative leadership, which has enabled us to translate our educational program into practical action at an early stage. There is a fine county library system. Indeed, the director of libraries for Fairfax County serves as a consultant in the establishment of library systems in many parts of the country. The county's recreation department, which has just been combined with the park authority, is working on adult as well as children's recreation and, again, cooperates with Reston. There is a voluntary county hospital, operated through the County Hospital and Health Commission which, again, is working with Reston in the developing of Reston's health facilities. The Health and Welfare Council of the area provides active leadership for the varied voluntary social agencies. Numerous service clubs and other voluntary groups are lively and articulate. In particular, agencies such as the Y.W.C.A., Y.M.C.A., Boy Scouts, Family Service and countless other groups have worked with Reston from the earliest preplanning stage. I do not doubt that similar agencies are working with the Columbia team, but I have heard little reference made to them, except in the field of church planning.

While many of these community-directed agencies do not operate in exactly the ways we think are best or, rather, are most suitable to a new town, they do provide us with a basic framework for planning our early activities. One of our most difficult problems in negotiation has been to convince the leaders and the decision-making groups that the provision of new, and what we believe are improved, programs and facilities in a new city can be used as a demonstration for improvement of other areas of the county. We have had to prove that time and money spent for programs in Reston, by the county, would not denigrate or lessen the impact of existing social and educational activities in the county as a whole. We believe we have resolved this problem, however, and that the leadership in the county will continue to work with Reston as a team in building up the best possible community facilities.

Planning for Churches

Parallel with the coordination of new town programs with existing county and state social agencies are the procedures developed for participation by the churches and the nearby universities. Here, too, our ideas differed somewhat from those of Columbia. Columbia's procedures were based upon formal planning committees, which have resulted in detailed recommendations for churches in the new town as a whole. I assume, that the "Working Papers in Church Planning" prepared for Columbia by the National Council of Churches in Christ are currently available to Litchfield Park planners. I have found them extremely interesting.

Reston approached the problem of church planning on a more informal basis, confining the secular role to that of site selection — but working closely with local church leaders. Our procedure was to initiate discussions during the earliest phase of our pre-planning with the Area Council of Churches in Washington, D. C., and to draw upon their statistical knowledge of Northern Virginia and the surrounding area, as well as their local experience, to plan the number of churches that probably would be required to meet the spiritual needs of the 75,000 persons who would reside in Reston. The figure we arrived at was 35 houses of worship, including Protestant, Catholic and Jewish.

Incidentally, the proportion in Northern Virginia in the area in which Reston is located was 75% Protestant, 20% Catholic, 5% Jewish and other faiths. There is some indication, however, that this proportion is now changing slightly, and that the size of the Protestant group is decreasing. The decision to provide for 35 places of worship in Reston then was used in drawing up our Master Plan.

The Area Council of Churches also took the responsibility of working out with the Protestant denominations the order in which they should build churches. Thus the Methodist, Baptist, Lutheran and Episcopal churches are to be completed respectively by the time there are 2,500, 5,000, 7,500, and 10,000 residents in Reston. On this basis we signed contracts for the sale of land to the first four Protestant churches, as well as for a Catholic church and parish school, three to be located close to our first Village Center, and one directly in the center.

Although each of the churches paid the same amount for its site, the size of the sites vary from 1.3 to 4 acres, depending on topography and parking. The church that is in the village center will use the village center parking and will not have any parking space of its own. The church that is closest to the school will share parking facilities with the school.

In the second village, and more particularly in Reston's town center, a different planning concept prevails. Three churches have agreed to have separate sanctuaries, but to pool their educational and office needs in one building. This building also is intended to include other community and educational facilities.

The role of the early churches in Reston has been extremely significant, both in helping with the pre-planning of social facilities and in dealing with the problem of multi-purpose use of community and educational buildings. The first two ministers — the Methodist and Baptist — came into residence in Reston almost along with the first occupants of town houses. Both ministers are residents, one of a town house and one of a detached house. They immediately began services, including morning worship, Sunday school, and vespers, in existing temporary facilities. Today they furnish concrete examples of how the transition can be made from temporary operation in houses to operation in community and educational facilities which they will continue to use until such time as their own churches are completed.

The role that already has been taken by representatives of the churches in community leadership and in the educational field generally is, we believe, a forerunner of both more active and more integrated community institutional life. The church leaders, both clerical and lay, are participating in many aspects of social and, indeed, physical planning. Housing for the elderly, in the initial stage, is being sponsored by two of the church groups that have come into Reston. The Lutherans have bought the land and have undertaken to build between 100 and 200 low cost housing units under the Community Facilities Administration (H.H.F.A.) 200 program of the 1965 Housing Act. The building will include community dining rooms and other community facilities, a library and other amenities for older occupants. This structure is located almost adjoining the property of the first elementary school and close to the village center. The location has been selected primarily to make it possible for the elderly to participate in the community, educational and cultural activities — from baby-sitting to painting!

The Methodist church is planning another facility for the housing of the elderly which will be for persons of a somewhat higher income level, to be located close to the second village center that we are in process of planning. Here, too, the aim is for the elderly to be located close to a village center where they can walk to all facilities and can enjoy working with the children, possibly in a day care center. We thus believe that our community facilities will contribute to the basic concept of balance in age, education and income.

Pre-planning for Schools

One of the first steps in preparing the Master Plan for Reston was to determine the number and location of the schools that ultimately would be needed. In cooperation with the Fairfax County School authorities, it was decided, on the basis of the county school sizes and school population projections, that Reston should have 15 public elementary schools (and obviously some additional parish schools) of Grades 1-6; six intermediate schools, Grades 7-8, and two or three high schools. These figures were arrived at on the basis of the county standards, and the expectancy of what would be needed by 1980 for a population of 75,000. The figures, of course, may be altered if the ratio of children changes.

The location of the schools reflects the basic philosophy underlying Reston planning — that Reston would not be child-oriented, but would be designed for people of all ages. Therefore, in contrast to the plans of Columbia and Litchfield, as I understand them, the elementary schools are placed within walking distance of the houses where the children are expected to live. They are not in the village centers, where it is felt that the emphasis should be, to a certain extent, adult, and where facilities will be included that will be attractive to men as well as to women.

Higher Educational Planning Problems

In the field of higher education, the aid of existing organizations in the Reston area has been drawn upon from the outset for pre-planning. The Virginia Polytechnic Institute, through its agricultural extension service, has worked with Reston in exploring ways of adapting the services of its agricultural extension agents to new town development and urban needs. The University of Virginia, through its Northern Virginia Center for General Studies, and American University, through its adult education branch, offer adult education courses to be held initially in Reston's community facilities, which are being adapted to the particular needs of early new town residents.

One of the prerequisites for these courses is that they be given at times which are convenient for the continuing education of young mothers. We are convinced that one of the difficulties in most adult education programs is the inability of mothers whose children are in nursery or elementary school to find courses they want sufficiently close to their homes so that they can take them while the children are in school. The problem, in a new community in particular, is to find enough persons who want the same courses to permit the development of a rational schedule or series. Finances somewhat control this, as a minimum of 20 students must be enrolled before a teacher can be afforded.

Of course, not all adult education courses will be given in the morning. Others are planned in the evening. Moreover, technical courses are being developed as part of the industrial research program to be operated in Reston's industrial facilities. Obviously, in Reston as in other places, a full scale university or technical college would facilitate this program, and it is assumed that by 1970 such facilities will be available and, indeed, taken for granted.

Health Planning

Health programs obviously must be taken into consideration as part of the pre-planning of community facilities. In Reston, as I noted earlier, the availability of an effective county hospital and health commission and a county and state health director have facilitated the total health planning. Working in cooperation with the commission, land has been set aside for the development of a hospital complex which will include a mental health facility. Detailed plans for the hospital complex and for public health facilities will be completed during the next year as part of the planning for Reston's major town center. In the meantime, to insure health education and initial medical facilities, the county health director is working with a number of doctors who have taken up residence in Reston to establish a medical office building and a clinic, which will work with the existing county health and hospital staff.

Community Organization

The developer, with his team, pre-plans community facilities, and he even pre-plans programs and initial community structure; but it is the residents themselves who test the plan and determine whether it is useful or workable. The community structure or organization "pre-planned" for Reston includes two home owners' associations (which comprise all who buy in Reston, whether residents of town houses or individual houses), churches, school systems, riding stable owners, industrial plants, cluster associations and a philanthropic community fund.

Each home owners' association is responsible for the maintenance of the main roads and walkways, forests, open areas, landscaped areas, street lighting, snow removal and such other services as its members may determine. A maximum charge of $40 per year was set as association dues for the first two years. Thereafter, dues will be set to meet the cost of the functions which the members of the association undertake.

Each town house buyer also automatically becomes a member of a cluster association, which is responsible for maintenance and improvement of the property owned in common by the cluster. The first Reston cluster associations have come into being, have elected officers and actively are undertaking responsibilities, both financial and physical.

As an instrument for the participation of Reston residents, other individuals and the larger community in the development of social, educational and cultural programs in Reston, a non-profit Virginia corporation, the Reston Community Fund, has been set up. It has an executive director and a board of trustees selected from Virginia cultural leaders in art, literature, theater, education and government. This fund, which is eligible for tax-exempt contributions from individuals as well as from foundations or government, is an instrument for increasing the range and excellence of activities and facilities. Its first activity is the operation of the Lake Anne Community Center. Its future activities, to a considerable extent, will be determined by the patterns indicated by Reston's residential and employment population.

Problems of Practical Application

The physical and social framework of the region in which any new town is set obviously affects in a substantial manner the way in which community and educational facilities are planned. The way they work out in practice may differ, however, from what the planners forecast. For this reason, at Reston we determined from the outset that we would keep our planning flexible and that we would take account of our mistakes as well as successes, so that we could apply experience gained to future planning. At this point, we are evaluating our first facilities and programs, an evaluation which will become more valid as time goes on and our population increases. In this regard, possibly a few guesses at this stage might be useful for other new towns, including Litchfield Park.

Community Center

The community building in Lake Anne Village Center has an auditorium which can seat 180 persons, or it can be divided for the simultaneous use of two groups. It has a small stage and a hung roof which permits excellent acoustics. It is possible that the stage may be too small for adequate amateur theater, and the angle of the walls and the sloping ceiling limit full use of the auditorium for film shows. But it already has proved wonderful for poetry reading and violin recitals. The kitchen has a pass-through to the auditorium on one side and a rathskeller for young people on the other. We are eager to see if this system will work as well in the United States as it does in several British communities. It is possible that the pass-through may have created a problem in serving.

The Community Center is, in any case, capable of varied and multi-usage, which I believe is particularly important in this initial period when the churches and the first public school are not completed. The Methodist and Baptist ministers share many activities in the Community Center, and by agreement they hold services respectively there.

The multiple use planned for the Community Center includes lecture series, film programs, dance classes and ceramic classes, as well as varied music and drama activities. Some of these are of particular concern to children's groups; others will meet the requests of teenagers; and some will be of special interest to the elderly. Emphasis, at least in the initial stages, is on the desires of the younger adults — including especially women who want courses in continuing education. One of the problems, obviously, in insuring multiple use is that of scheduling. Here too, at least in the initial stage, the developer or his staff may have to assist in pre-planning programs and managing the Community Center until such time as a new community can develop enough leadership to take over these management problems, enough funds to carry through activities and sufficient staff to operate facilities.

Art Gallery

Reston has an art gallery of about 1,100 square feet on the ground floor of the high-rise apartment building in its first village center. The gallery also is an educational facility because it has been designed for multiple uses. It has four rooms, three of them about two stories in height, capable of mounting a substantial exhibit. Its largest room, of about 450 square feet, can seat 50 persons for a lecture; its smallest room can serve as a ceramics studio, as well as for exhibits. The whole gallery can be used for painting and sculpture classes. Incidentally, the large room also can be used for church services — another example of multiple use. With the physical planning completed, the problem of initial management and operation of the art gallery had to be faced and a solution found that would permit the gallery to serve as an integral part of Reston's early community and educational programs. That solution was to rent the gallery to the art supply store, which is operating close to it in the first village center. One room is reserved for use as an extension of the Community Center. The whole gallery is available after specified exhibit hours, and it is reserved for the equivalent of seven days a month for community and educational activities. How well this solution will work cannot at the moment be foreseen. It depends on the operator of the gallery (who has been employed by the art supply store), Reston's community relations staff, and, even more, the community users of the facility. One thing is quite clear — that the value of what has been done in creating the art gallery will depend on how much and how well it is used.

Library

I already have indicated that Fairfax County has an excellent library system. Here, again, Reston has been able to draw, both in its pre-planning and in its early operating stage, on an existing institution. The bookmobile of the library began its visits to Reston as soon as there were some 30 families in residence. A small branch library has been constructed by the developer in the first village center, adjacent to the community center, and will be operated on a rent-free basis as part of the county library system. This library will open in a few months, and will continue to operate until Reston has a population of between 5,000 and 10,000 persons. By that time the regional library will be constructed as part of Reston's town center. The funds for this building already have been provided in the county capital budget for 1967-68.

The library system cooperates closely with the Fairfax County School System and with the Fairfax County Recreation Department. In fact, there is a joint board that examines the activities of all three so as to insure that these institutions are jointly providing the most up-to-date and progressive programs that they can devise for the benefit of Fairfax County. Reston is enabled not only to take full advantage of this but to participate in county planning and to draw upon county facilities because Reston itself is a part of the county.

The next phase will be to integrate this system with the technical libraries and the facilities being developed in Reston's industrial complex. Here, too, we believe that there is a lesson for the future in coordination of facilities designed for children with those designed for technical expertise and those for the community as a whole.

Nursery-Kindergarten

Because Fairfax County does not have public kindergartens or nursery schools, Reston decided that it should pre-plan, erect and initially operate an educational facility to cover this age level. We have just completed construction of the first such school. In fact, because our construction was slower than anticipated, the school opened temporarily in an unoccupied house, and just this week it was moved into the permanent facility.

In the design of this facility we again sought maximum flexibility so as to permit maximum use of the space. The three rooms, carpentry shop and playground can accommodate 84 children in two sessions. Until such time as this maximum enrollment is reached, one room is reserved for dance and drama classes for adults and older children, as well as for nursery and kindergarten children. Some of these classes will be taught by private instructors and some by American University.

Ceramics classes, particularly when there are more pupils than can work comfortably in the small ceramics room of the art gallery, also will meet in the school. After school hours and in the evenings we expect that the rooms will be utilized for dances, scout activities, meetings and other community activities. We hope that the school will be considered a basic part of the community activities. Incidentally, with its first 16 children in attendance, the P.T.A. already is an instrument for welding the first community spirit because the school currently is a "model cooperative," and the utilization of the parents' skills is being mobilized by the school's director.

Outdoor Recreational Facilities

Many of the outdoor leisure time opportunities sought by all age groups require facilities which, in turn, call for a substantial initial capital outlay — and for usable space. Playgrounds, as well as golf courses, must be planned, located and built. Outdoor facilities, moreover, can have much educational and community value, and they can be used to strengthen community enterprise as well as individual skill. They also, of course, can bring social and psychological problems. Our early Reston experience has provided illustrations in this area, too, of successes and some miscalculations.

Our first construction consisted of an 18-hole championship golf course and a 20-acre lake; and our first housing was built around these facilities. The golf course, which was open for play before any houses were completed, has been a public attraction and has provided an opportunity for early community activity. The Y.W.C.A., for example, almost immediately began to arrange group golf lessons, with baby-sitting arrangements for the mothers.

As soon as the first swimming pool was open the Y.M.C.A. began swimming lessons. Incidentally, the golf course is open to the public on a fee basis. The swimming pools and tennis courts are operated as clubs, with membership open to all Reston residents. The lake immediately became the center for teen-age activities, although there also is an admiral who competes in sailing a 16-foot boat — which capsizes frequently.

Reston playgrounds were designed by a specialist. They are scaled to varied age groups, with small but stimulating play equipment close to housing, and with tricycle and bicycle paths connecting them with the school sites and the village center. Some of the playgrounds have been most successful, but in at least one case, where a playground for small children was designed and located in advance, we miscalculated the age of the resident children and found its location to be merely an irritant to retired couples, so the playpool had to be relocated. Adventure playgrounds and a general playpool for older children will be built soon.

Reston asked the Audubon Society to plan a nature center that could be used by all residents as an active educational instrument. The plan proposed an educational institution that was more like a nature museum; so it is being revised to provide for active participation by children and adults in raising the animals, running a model farm and working in the woodland areas. We hope this will be geared to school activities. In the meantime, some garden areas also have been allocated for residents to rent and cultivate, with horticultural advice from the county agricultural agent.

As indicated earlier, ball fields and other areas, including paddle tennis, horseback riding, etc., are being developed in conjunction with both the schools and the industrial plants to provide for maximum community use.

Schools

New towns provide an opportunity for experimentation — both with the schools themselves and with the community's use of schools. Because of Reston's concern with this problem, and to enable Reston to have school buildings that would be appropriate for such innovation, the Educational Facilities Laboratories made a grant to the Fairfax County School System to help in the design of Reston's first elementary and intermediate schools. Caudill, Rowlett & Scott, working with the local Fairfax County architects, came up with a design that provides for a cottage-type elementary school to house the first six grades. The design will encourage experimentation with team teaching and with multiple use of the facility. Also, it will be possible to construct the school in stages as the population grows.

The planners of the school worked with Reston's community and land planners to devise a system of multiple use of playgrounds and parking areas to avoid bulldozing even more land for school parking and for extra school ball fields. As a result, cars and ball players will be accommodated in other community facilities provided nearby. Construction of the school will start next year — provided that there are enough children of the right age to justify a new school. A recent county bond issue provides for financing its construction. Here I must admit one of our mistakes in calculation. We had assumed that more children in the elementary age group would be in residence in Reston by late 1965 than there are in fact. If our original calculation had been correct the school would have been built at the same time as the other community facilities. However, the first families seem to have fewer children in this age group than the Fairfax County average, with some being older and some being younger. This fact enlarges the range of community activities but has delayed construction of the school. We assume that long before the year 2000 this kind of imbalance will right itself.

An intermediate school for Grades 7 and 8 also has been designed to accommodate new curricular and teaching programs that the county and Reston hope to innovate. These include, among other things, educational television and possibly the three-term school. Moreover, the design for the intermediate school includes a small auditorium and gymnasium facilities which will be available for the community as a whole and not be limited in their use to school children. However, the construction of this school and all other intermediate schools has been postponed until there are more residents in Reston. I cannot, therefore, draw any conclusions regarding the application of this planning.

The design of the high schools likewise has been postponed so that we can take advantage of our experience with the lower schools and of other educational designs and programs. Three high schools are provided for in our Master Plan, but they will not be planned in detail until the population warrants it. Therefore, because the community will not have access to a high school auditorium or gymnasium, there is all the more need for major facilities such as a concert hall, live theater and major sports areas in the town center. They are to be constructed in stages beginning almost immediately.

Town Center

The major community and cultural facilities which clearly require more people to support them than could be found in individual village centers are, under the Reston plan, to be located in the town center. This center will cover 150 acres and will contain, in addition to stores, apartment houses, office buildings and civic buildings, the health center and recreational, educational, religious and cultural facilities — including a museum, theater and conference center. What is more, the plan for the center has been devised to avoid congestion and the ugliness of the monster parking lot.

The conference center is expected to serve several different community purposes. Physically, it will provide hotel and motel facilities and meeting rooms of various sizes. One of its basic purposes will be to enable government departments, both national and local, and business executives to operate sessions and courses similar to those being carried out in Arden House and in the many centers for continuing education around the country. But the innovation in Reston's conference center will be that it will be community based, designed primarily to serve the educational needs and aspirations of the residents.

Concluding Comments

I should like to present one or two further comments that are directly related to the educational and community facilities as outlined in the Litchfield Park preliminary master plan, and to note where these differ from the planning concepts of Reston.

First, with respect to the concept of neighborhoods within villages, villages within communities, and communities surrounding the core that appears to be the design of Litchfield Park, I wish to say that this design is far closer to that of Columbia than to that of Reston, and, I assume, it has been drawn up with some specific concepts in mind. I also realize that it contemplates a much larger area of development than Reston encompasses.

In Reston, the philosophical concept underlying the sinew plan is that Reston residents, as well as persons who work in Reston, will be citizens (or some equivalent) of Reston as a whole. There are village centers around which community facilities, other than those major facilities in the town center, and educational facilities are grouped for reasons of physical convenience. For example, marketing experts have convinced us that 10,000 persons are required to support a supermarket and that one supermarket should be in each village center. Similarly, I am personally convinced that approximately 10,000 persons are appropriate to support a community center and that, therefore, a community center should be in all or most of the seven village centers. I do not believe that it would be feasible to have an art gallery in each center. In fact, I do not believe, once an art gallery is established in the town center, that more than two additional art galleries would be appropriate in village centers.

As stated earlier, it is the calculation of Fairfax County that there should be an elementary school for every 5,000 persons. Consequently, we assumed that approximately two elementary schools would be connected with each village center and that intermediate schools would be placed so that they would be available for the persons served by at least two village centers. We do not believe that school neighborhoods should be the basis of community activities. The location of high schools will be determined on the basis of the multiple use of their facilities by the Reston community as a whole.

I want to reiterate the concept underlying Reston's community plan — that its institutions should make possible an adequate variety of programming to be of interest to men as well as women and to persons of all ages. To do this, we felt that there should not be an artificial neighborhood development which would provide too small a population to make possible the variety of community and social activities needed for the fullest use of leisure time opportunities This concept, of course, is related to the whole problem of cultural, social and income mix, as well as to use of community facilities, and it is one that requires much greater research, experimentation and analysis than appears to be available at present. The subject certainly is ripe for discussion.

CHARACTERISTICS OF AN ADAPTABLE SCHOOL SYSTEM

WALTER CREWSON

I am reminded of something I read somewhere about the Chinese symbol for crisis. It is a two-headed symbol, the first part meaning danger and the second part meaning opportunity. I should like to stress the opportunity side of this subject. Consequently, I have set down what to me appear to be the characteristics of adaptability in a school system because I felt that the keynote for this whole planning must be adaptability in a rapidly changing time — adaptability to all the opportunities and challenges that will be presented to this new school system.

First, the system must be planned to take maximum advantage of known and tested improvements in legal structure, staffing, organization, facilities, governance and financial arrangements. I think all I am saying here is that I hope the new school system will take a very objective look at itself and make every effort to take departures from existing status quo features that do not contribute to adaptability. Its central characteristic must be its adaptability, a factor of design in its every facet.

Adaptability must be projected for a maximum period of time, consistent with foreseeable trends in population character and growth and consequent educational needs. Perhaps the most significant limiting factor in reference to the forward look will be the willingness of its planners to assemble and project available data in relation to determinable state, local and national — even world — trends, prior to the establishment of an initial plan. The initial plan, once it is established, should be subjected to the broadest possible review by city planners, sociologists, educators and the citizenry it will serve.

The forward look of the plan will not in any manner be restricted by a constant reference to the purposes for which common schools are established in this free society. The design should accommodate the purpose of genuine and quality-integrated education as well as the purpose of accommodating the children who attend the non-public schools.

I have been vaguely conscious of the notion (I hope you will disabuse me if I am wrong) that you do not foresee an integration problem. I should like to advise you that even if you are confident you won't have one, it would be well to build in some adaptability. I have been in the midst of many of the integration problems in the East where school administration, board and community have had their attention completely diverted from education for long periods of time while they tried to accommodate the rising tide of expectations among the disadvantaged.

In addition, let me say that any careful study of American history with a focus on the contributions of the common school will, I think, impress the reader with the necessity of maintaining this institution as a common school in our society.

The design should be correlated with the total educational needs of the community — elementary, secondary, adult, vocational, technical, liberal education, for youth, both in and out of school, and for adults. Also, the design of the school system should be correlated with community agencies which are supportive of education — libraries, museums, recreation facilities, agencies of public welfare and agencies of government.

Now, as to legal structure: It is here, I believe, that possibly your first important opportunity will come. A study should be made of all educational requirements by governmental agencies to determine the need and possibility for removing those requirements which may restrict the adequacy, the support or flexibility of the school system. Going back to my reference to the Chinese symbol, I think that this is your opportunity. In New York State, if we want to break through bureaucracy and set aside rules and regulations, we have a little scheme which permits us, if we can brand the thing truly experimental, to set aside the regulations. We can set aside regents exams; we can set aside mandated curriculum. I don't think there is anything we can't set aside, even certification requirements, if we label the thing truly experimental. This may be a part of your opportunity.

I know that I will be labeled the vice-president in charge of education heresy when I say some of the things I am going to say now. The board of education should be elected on a non-partisan ballot. That is to say, it should not be appointed. Financial support must be adequate, even if the existing means of support, state and local, must be supplemented with private or foundation funds. Minute requirements of certification for professional staff must be subjected to equivalency, and, to a degree, to the judgment of the chief local school officer and the board of education. Legal program mandates must be at a minimum. (I think on a national scale we somehow must convince legislators that their authority doesn't clothe them with wisdom to write a curriculum or to make curriculum mandates. Some legislators have discovered that fact, but I am afraid it is not common.)

The local boards of education must be fiscally independent. Alexander Hamilton once said, when he was a member of the New York State Board of Regents (1784): "Education and partisan politics should flow in separate and well insulated channels." Our Board of Regents, for example, is elected by both houses of the legislature and thereafter they report only to God. They are in charge of the total educational system. We have nine hundred and ninety-two (992) school districts in New York State and nine hundred and eighty-six (986) of them are fiscally independent. The only ones that are fiscally dependent are the six big cities, and we have made a break-through in one of them which we hope we can exploit. We realize we couldn't get all six of them free at once.

The tenure of professional staff should be reviewable at intervals. The basic policies of the board of education should be developed in cooperation with the professional staff and should in all respects honor the principle that the role of the board is the making of educational policy. Matters of administration should be fully delegated to the administrative staff whose members should, in every case, report to the superintendent of schools.

As to the professional staff: The superintendent of schools should be a proven administrator. I don't buy any of this talk that says the superintendent should be an educator, and then distinguishes between an educator and an administrator. Somebody must run this show, and I think that somebody is the superintendent. I want his preparation to be inter-disciplinary in character, because he has to handle problems in their full dimensions. I want his experience to include some successful classroom teaching. I should like also to see in his experience some significant responsibility in community relations. The cabinet of the superintendent should be so designed as to assure the minimum number of members directly responsive to the superintendent so that he personally may assume the chief role in instructional leadership and community relations. The business function of the school should be served by an assistant to the superintendent who possesses both educational and business qualifications.

A district supervisory staff should be provided which will assure sufficient contact with the teaching corps to provide leadership in adapting curricula to the needs of the children and in establishing improved practice as it arises from responsible research.

Buildings in all cases should be served by a principal with enough assistance to assure the freedom of the principal to communicate in depth with the teaching corps and the community. Principals, in all cases, should have been successful classroom teachers. As I stand here, I think of the first week I was in Albany 10 years ago in my present position, and, being new to the state, I thought I had better get around and meet some of the people; so I just took off to the fields, and I wasn't in the office more than a day a week the first two years I was in Albany.

This was a very productive investment. Anyway, in that first period I called on a building principal in a big central school district. The secretary didn't know me, and I didn't tell her who I was. I just asked if the principal was in and she said he was busy counting the milk money. So I went away sadly. About three or four weeks later I was fishing with Paul Mort and I told him about it. We were out in the middle of Lake George, and if you had been on the shore you probably would have heard him howl. He said, "God, I hope you didn't disturb him. He was probably working at his top skill."

Now here I am going to be charged with heresy again. In secondary schools the proven competence of teachers should be a qualification for their appointment. An instructional generalist should be substituted for the time-honored cluster of department chairmen, who characteristically tend to drift into routine and administrative functions and away from genuine quality control.

Guidance and other key functions of pupil personnel service should be made available to all levels in the schools, and, with an appropriate concern for efficiency, should be located in every school.

The research function of the school system should be staffed to provide ready information for the board, the government and the community on all aspects of quality in the instructional program and on those aspects of operation which are subject to periodic change like budgets, buildings, equipment and such. All I am trying to say here is that research should protect the school system against "flying by the seat of its pants." However, local research should not attempt to perform those functions which can be, and are, conducted better by higher institutions of learning, by efficient groupings of school systems or by other established agencies of educational research. I think that, if there is any potential scandal in our whole business as educators, it is that we have done a lot of research, some of it very good, that nobody knows about. We do not have any grapevine that gets the significant findings of research around to the profession in an efficient way. And the result is that a lot of us are plowing the same ground, some of us not as well as others, and the results are negligible.

Definite provisions should be made by the local school system research agency to gather and diffuse significant findings of basic research and improved classroom practice.

The local research agency should be responsible for determining, in cooperation with the professional staff, an adequate program of evaluation. I don't think we have reached the point in the estimation of our free society where we are going to be exonerated from evaluation. And I think it is well for us to agree among ourselves on what constitutes excellence and to have an evaluation program in operation. In any case, how can there be real excellence unless the professional staff has agreed on what it looks like? Evaluation should be developed with a proper respect for the need for creative teachers to experiment with new methods and materials. I should hope that the budget of every school would include some funds every year that are untrammeled by any of the red tape of the school system, placed in the hands of the principal and teachers, with great latitude for experimentation. I have seen this work, and I want to say to you that it frees a lot of otherwise latent energy.

Organization

This necessary feature of the school system must be flexible enough to make possible the serving of unique needs of children. Efficiency requires the grouping of children with special needs to assure maximum responsiveness to those needs. It should be a principle that educable mentally retarded children are served in buildings attended by normal children.

The general structure of the schools, I hope, would be as follows: K-4 neighborhood schools. (After all the fuss I made yesterday about integration, I want to say that you have to consider priorities here, and I think the advantage of having little children near their homes outweighs any other consideration.) The next four grades should be set up as middle schools. Here I must exhibit a prejudice. I think the junior high school was organized because it was assumed that children of junior high age were unique (and I don't think they are) and I don't think that the junior high has accomplished the optimistic purpose that it announced. This simply emphasizes the fact that there is no magic in organization per se. And, of course, the senior high school should be a four-year affair. We should have, when necessary, community colleges and area vocational-technical schools and centers of adult education.

Much research has been accomplished relevant to the size of schools. Results point to variables in keeping with community resources and conditions. K-4 probably should accommodate a maximum of 400 to 500 pupils; middle schools — 700 to 800; senior high schools — 1,200 to 1,500.

New York State right now, for example, has about 800 high schools, and more than half of these, in spite of our years of hard work in reorganizing school districts, have senior classes of less than 100. I took a look at those to see how they compared in effectiveness with adequately sized high schools. I found three things: (1) The small high school didn't make a significant number of formal arrangements for the most able pupils; (2) it didn't provide much opportunity for learning salable skills, and (3), more significantly than the other two put together, it didn't have a flexible enough curriculum for the middle group to provide necessary curriculum options. Consequently, I would charge the too-small high school with a significant responsibility for dropouts. Paul Mort said one time that if people ever find out what a good school looks like we will get a lot of them.

Community colleges probably should enroll 1,200 to 1,500 students. But I am not so sure of that as I am of the other figures because the other figures are based on some research and they relate to justification of necessary services and flexibility in the curriculum.

Here, again, I am not too sure about what I am saying because I think there are clear alternatives. I am not sure you need vocational-technical area schools. It could well be, if you plan to do some transporting, that one high school could offer some choices and another high school could offer a different series. In that way you could exchange students and get the same effect as if you had an area vocation-technical school. I think wherever you have the option, the comprehensive high school is the answer. But a terribly big and comprehensive high school is necessary to offer what I think is the optimum number of vocational choices, 10 or 12, for boys and girls. It would take a high school of (grades 10, 11 and 12) between three and four thousand children to justify that many choices. The area vocational-technical function, however you clothe it with reality, should be available in the evenings, on weekends and during summer months for upgrading or initiating skilled training of adults.

Community colleges should serve the technical training needs, not necessarily terminal, which complement secondary levels in these fields as well as the initial liberal arts preparation for students who are college-bound. I have grown tired of hearing the argument about whether the community college should handle all vocational education or whether the high school should. I don't think this is an either/or — I think it is a both/and.

Facilities

All school buildings should be equipped to accommodate large and small group instruction, team teaching, closed-circuit television (with provision for receiving in every classroom appropriate TV broadcasts), and, of course, some provision for physical education and recreation. Although I did hear a gentleman say at the breakfast table this morning — and I am repeating it because I agree with it so heartily — that, if you could eliminate transportation, maybe you also could eliminate some of the trappings of physical education in the school building and be just as far ahead.

Now about sites (you remember that I was troubled about the commercial location of the proposed high school): A minimum site for the K-4 school is five acres plus an acre for every 100 children. In the middle schools about the same — five plus an acre for every 100 children — is needed. These are bare minima. And for the senior high school, 10 acres basic plus an acre for every 100 children are needed. If you build area vocational schools, they won't need much space because they are part-time schools, and all high school students who attend them will have home schools where they may participate in outdoor activities.

These site standards are considerably less than those proposed by the National Council on Schoolhouse Construction. Community colleges will need larger sites to accommodate student program needs and future expansion.

Every school should be equipped with a complete library (I did say *every* school) and staffed with one or more competent librarians with essential clerical staff. I can't think of any one stroke we could make in American education that would make as much difference as the guarantee that every school will have a complete library with proper staff: a capable librarian and essential clerical staff. Even in New York State, where we like to think we have things pretty good, we found that 40 per cent of our elementary schools did not have organized libraries; so we are focusing our Title II funds on that goal as the state's strategy.

Every school should be equipped with an auditorium, not necessarily large enough to accommodate the entire student body. Indeed, I think I could make a case for not making it large enough.

Where possible, all schools should provide facilities for outdoor instruction.

Every school should be provided with a cafeteria, related to the educational purposes of the school. The cafeteria can serve a second purpose as a small auditorium.

Every school should be designed for effective employment by its community. Some adult education can be handled on a neighborhood basis, but some is so specialized that you could justify only one center in a community of 100,000.

The professional staffing ratio ought to be at least 55 for every thousand children. (That includes the entire professional staff.)

Schools should be so located as to reduce transportation to a minimum. And, of course, the schools should maintain transportation facilities in their own ownership for an enlightened program of field trips, which are a vital adjunct to the visual education function of instruction.

The key guide of all is that every aspect of a school system should be so developed as to include no feature which will inhibit its adaptability. I know this is a pious hope, and I know it is an almost impossible achievement, but I think it ought to be a focus of attention.

Now a few caveats: First, I think the very first thing you must decide is whether you are committed to developing an outstanding school program in this new community, or whether you are going to accommodate a lot of fixed charges in the landscape and settle for what you can get. One test would be whether you are committed to teaching only the fundamentals in the narrow sense, or whether you want to launch out on a program to introduce children to the breadth and depth of the possibilities of the modern world.

Second, I hope the curriculum will pay as much attention to the arts and humanities as to math and science, to elevating taste as much as to raising performance on a standardized test.

Third, I hope you will assemble the key staff early, five to ten persons, including the superintendent, to plan the most imaginative and forward-looking program anybody ever has heard of. And the first charge on these people will be to visit the best schools in the United States, public and private, and then work individually and as a group to outline the plans for the new system. When the plans are pretty well along, I think a charge on all of us is to involve the lay leadership as deeply as possible so that there is broad commitment. The program probably should begin with children as young as age three; and I want to lay down as a criterion here that this not be a custodial program or a pre-school program, but a truly integrated part of the total plan.

Deliberate efforts should be made to include in every school a social, cultural and racial cross-section of the entire community. Now I realize that there are alternatives to this, depending on the constituency of the community. If you want to be absolutely secure, I think that you should set up K-4 neighborhood schools in neighborhood settings without too much attention to integration and develop educational parks for your middle schools and for your high schools. I hope that there would be — as complete as possible — avoidance of formal grade structures in the interest of individualizing instruction for every child. I hope that there would be plans to relate schools and homes in every possible way, including systematic participation in the schools, not only by mothers, but by a large number of citizens for their contributions of experience and expertise.

These, then, are my convictions. I am sure you may think of them as prejudices; and, if you do, I'll accept that designation.

Let me conclude by saying that you have here an unparalleled opportunity to do some genuine trail-blazing. I am confident that you are dedicated to the full achievement of your potential.

EDUCATIONAL PLANNING FOR A NEW COMMUNITY 1965-2000

CYRIL SARGENT

Few tasks are more intriguing than to plan the educational design for a new community. Most of us in educational planning spend our time examining existing programs, personnel organization and physical facilities, all of which operate in one way or another to restrict our options and limit our recommendations.

But perhaps this very accommodation to the existing — to the here and now — conditions and limits our ability to imagine the future, to set our goals high enough and to bring invention and creativity to our efforts. It was perhaps a sage admonition that "if you would be guided by the light of reason, let your mind be bold."

My task today is in some ways one of straddling the central problem of what an educational program and plant should be like for a new community. I am to suggest some of the assumptions and conditions which possibly can be anticipated as the context within which the school must operate, and, hopefully, flourish, and to indicate briefly some considerations that need to be taken into account when one thinks about the question of how to plan. Thus, I shall skip the specific educational plans, the organizational structure and the plant requirements, although I must admit that I have had to pull myself back from this type of conjecture and speculation very reluctantly.

Some Conditions and Assumptions

For years there have been those in economics and other fields, including education, who have been devotees of the cycle theory of change. In education these persons have suggested that the major changes in education have appeared with startling regularity at 60-year intervals, with minor adjustments at the half cycle. They point to the 1890s as the last period of major upheaval when the establishment was overhauled from top to bottom, from President Eliot's elective system to the appearance of kindergartens at public expense.

Before this the major cycle was in the 1830s in the days and works of Horace Mann. The minor phases, so the theory goes, are confined to particular sectors of the system — e.g., the land grant colleges of the 1860s and the progressive education movement of the 1920s.

When these cyclical theorists look at education today they verify that we are right on schedule — we are in another major change in education. Sputnik got the credit, but the facts seem to indicate that the general ferment was there and movement was beginning — Sputnik made it somewhat easier to support the change, or harder to resist it; but the ground swell was there, and the wave of the future was going to break on the conservative shore of practice and thought, Sputnik or no Sputnik.

Perhaps the last half of the twentieth century is moving beyond the boom and bust of *laissez faire;* perhaps growth, in both the economy and education, henceforth will be the order of the day; perhaps the most constant factor of our life is to be change, and at an ever accelerating rate. Indeed, I suspect we already can sense that we are not emerging into a period of consolidation and relative tranquility but rather into an even more rapid period of expansion, change and innovation than that we already have witnessed in the post-war period.

Now, with cultural change so exceedingly rapid, our having only older people, and a special group of them, as our *only* teachers, may be too limited an approach. Now perhaps everybody must learn from everybody else. Let me quote an illustration of Harold B. Gore.

> Consider the role, say, of a sixth-grade teacher today. It was only ten or fifteen years ago that a sixth-grade teacher could answer about every question a sixth-grader was likely to ask. How many legs has a grasshopper? What's the capital of Montana? How far away is the moon? Teachers had stored in their heads the encyclopedia facts of life and these were enough to get them through the day without loss of face from not knowing the answers.
>
> Today, no teacher can be sure. There may be lurking in the back of the sixth-grade room an eleven-year-old demon who has been watching television or reading the more solemn columns of the newspapers and is ready to pounce with the question. "Teacher, the Russians are going to use solid fuel to get to the moon. Why are we sticking to liquids?"
>
> If the teacher is a normal, well-adjusted, educated person, she won't have the slightest idea. She'd better ask the kid what he thinks and remember what he says. The situation requires that everybody learn from everybody, and the youngster must learn from everybody and everything. It may be just a shadow on a tube, a voice on a tape, a picture on celluloid; the point is he can now acquire information that doesn't have first to pass through the mouth of an older person called a teacher.

The rate of this growth of knowledge is in itself almost incomprehensible. Trying to understand the substance and consequences of it is even more difficult. This has been illustrated dramatically by pointing out that between 80 and 90 per cent of all the scientists who ever lived are alive and working today. Moreover, in the period between 1600 and 1900 there were more technological changes in the way men worked and lived than in all previous recorded time. But this we have coped with, more or less successfully. What staggers the imagination is the extrapolation of this rate for the future. There is about 100 times as much to know now as was available in 1900; by the year 2000 there will be over a *thousand times* as much knowledge. How shall we record it, store it, retrieve it, sort it out and evaluate it? And how shall we learn to develop social and personal values which will insure that its use will be to enhance human aspirations and the human condition?

Indeed it appears that, as Agnes Myers has suggested, education will become the first order of business of the modern state. Perhaps the last session of Congress, coupled with wide-ranging state actions, represents the prologue of this enlarged role for education.

This question of knowledge and its use brings us to a consideration of what Bruner has called the process goals of education. We cannot expect to acquire as individuals all the vast array of knowledge that we may need at some future time; indeed, we may not even be able to predict at all "what knowledge is of most worth" in a limited sense. Rather, we must emphasize the structure of bodies of knowledge — their basic intellectual concepts, tools and methods. Thus analysis, intuition and creativity tend to be pressed to the fore as goals for the educational system. In a sense we are hearing reactivated the basic idea of John Dewey in contemporary social science language. One only can hope that the Bruners of today will not suffer the fate of Dewey at the hands of his less sophisticated interpreters and disciples.

A second condition with which we must cope is that being brought about by the revolution within a revolution. The industrial revolution has given birth to automation, and, as one observer has truly said, "Now for the first time education stands squarely between man and his work." Margaret Mead expresses it even more dramatically when, writing in the *Harvard Business Review*, she summed up our human condition by stating that, as of now, no child will grow up in the world in which he was born, work in the world for which he was educated or die in the world in which he worked. Hence, she argued that education must not only be universal but life-long, and that for all people adult re-education is no longer a luxury but a fundamental necessity for economic survival. It is probable that the average employed person will have to undergo two or probably three major retraining periods during his productive years.

Certainly new career lines will emerge, and just as predictably manpower utilization will break radically with the past, discarding the manual and the repetitious acts of the unskilled and semi-skilled and placing even more demand on intellectual and social skills and behavior. Even the technician and executive is affected. The problem of the former can be illustrated by the case of New Haven, Connecticut, where a community action program identified a labor need in the field of drafting and set about establishing a training program for this work. About the time they turned out their first "graduates" the newspapers carried an account of the successful computer programming of a suspension bridge for which all the drawings were made by machine and for which the specifications also were detailed without human intervention.

As for the executive, men like Herbert Simon and others are computerizing middle management decision-making and, in the process, claiming to reduce the interpersonal frictions and conflicts in organizational behavior.

How will we accommodate ourselves to these changes? Perhaps the answer lies on two levels, the first being easier to face than the second. It is entirely possible that our concepts of efficiency in the use of manpower in general, and in education and social services more specifically, may be quietly abandoned in the face of the need to absorb what might otherwise become an unemployed educated elite. It won't be easy because much of school management has followed the efficiency model in business (admittedly not too successfully), and has just begun to talk of the "cost-effectiveness" approach.

On a more basic level we may be facing a challenge to our national character. John Galbraith has popularized our situation by describing us as the "affluent society." And so we are, in spite of the serious imbalances which may exist among the various groups. In 1950 our gross national product was $285 billion; 15 years later it stands at $670 billion, and it is estimated that, barring a major depression, it will be more than $850 billion by 1970. The problem we are beginning to sense is that under stable conditions we no longer may need to be governed by the necessity to keep men at work (for many it is increasingly meaningless work) because it would appear that we are moving into a major multiplication of power, at least in material things, without a corresponding increase in the burden of human labor.

The new problem then, and one in which the schools are inevitably caught, is that we may not too much longer have the "problem of production." Work itself with its routines, formal and informal, no longer may fill so much of the temporal space of life, or provide for the problem of order and discipline, both public and private, which have been made possible merely by its very presence and pervasiveness. And if work is no longer a central ethic and compulsion, what shall we substitute for the imminence of unemployment and boredom? Can it be other than the cultivation of men — viewed in all their individuality and viewed as a society? And what would this mean for the schools and for educational planning? It undoubtedly would mean a major reorientation of the school, a vast increase in the respect and support given to it and a major mandate to "humanize" its children or help them humanize themselves, not mechanize them or "program" them.

John Seeley, professor of sociology at Brandeis University, perhaps overstating the case somewhat, suggests the gap that exists between an educational system as he perceives it today and one which would seek to carry out this objective of humanizing the individual.

What, in rough outline, educational institutions now do is to take the child, warm, living, flesh-and-spirit in the kindergarten and nursery school, and turn him into sinew, skeleton, scar-tissue at the high-school, college or graduate school exit. He comes full of life, and he leaves full of schemes. He comes open, and he leaves closed. He comes in sensitive self-awareness, and he goes clad in clanking armor. He comes singing, skipping and dancing, and he leaves carrying himself, presenting himself, "using himself," posing and posturing. He comes to give and he receives; he leaves to trade at the door of life — not out of some inherent necessity of "growing up" (indeed this is growing down) but out of the very structure and content of education designed to that end. And rightly so. For what we have "needed" hitherto were not human beings but skilled ants and the institutions appropriate to their production; our schools and colleges have been and are, mostly, ant-hills.

Look at any high school today — close up! Then try to think of a process not patently punitive that is better calculated to produce an emptiness of meaning, value or sensibility of life. Try to think of a process better calculated to produce pseudo-robots, to institute triviality as normative, to lead straight to the life of "kicks" as the only appropriate response, to "cool out," for life, the life that still presents itself not wholly chilled by the grade school lock-up! And college and university are not visibly worse or better. The educators speak of "educating the whole child," but unless he checks pretty nearly everything that makes him a child and a human being at the door, they panic. Let the "kids" — even at the age of Berkeley students — take seriously for a moment the pretensions of their own society, let them act for a moment to demand that we act as we say, and the whole state quakes, and firearms must be carried onto the campus in the hands of men to confront children who ask them to be men!

This is a falling away from a high calling, by design and in essence, not by accidental defect. The "whole child" may not come to school at all; he is too frightening. What is wanting in the school is not a matter of defective educational theory — in the sense that we do not know how to do better — although what the school "takes up" (and distorts) out of such theory as there is, is clearly distorted and defective. But the child who goes to school is not thereby and suddenly another child, even when his capacity to grow up has been enhanced by the vast powers of visual-symbolic communication. He is not suddenly a thought-processing machine, with a sad necessity to be relieved occasionally to go to the bathroom, whisper to his neighbor or be paraded down the *down* staircase. He is a living, sentient, and, unless distracted, vitally engaged little human being, *naturally* orzanizing the world around him, objectively and subjectively, in terms of his (growing) concerns. Good education takes him *in toto* and links, not artificially but naturally, his expansions and reviews to the concerns he has now.

The difference between liberation and enslavement, education and training, parenting and manipulation, lies in the nature of the linkage effected.

I started by suggesting that in educational planning we all were bound too often by the here and now. Perhaps I have not been bound enough. Perhaps concern about the expansion of knowledge, rapid social change, automation and human freedom has taken me too far into nebulous speculation. But it does conjure up in my mind a variety of pictures of a school which would be seeking to respond to some of these conditions over a long strenuous period of development and growth. It conjures up schools for the very young, schools which would be fully and completely woven into the fabric of the community's life. It conjures up schools for the family as a unit, residential schools, schools in which provincialism would be replaced by poly-cultural centers, schools which would "speed the able while raising the level of all *of any bent*" to paraphrase the "Harvard Report on General Education in a Free Society." It conjures up schools where the excitement of discovery and creativity would be fostered and encouraged. In sum, it conjures up schools altogether worthy of the loyalty and commitment of the people.

Planning for the Future

How can we plan for this enlarged role which may be demanded of education? First we need to examine what we mean by a plan. In this connection a distinction which may be helpful has developed gradually in the field of urban planning between a plan and a program. A plan is a solution or proposal for the long-term development of a community in terms of its land use, community facilities and transportation network. The land use plan normally would include residential, commercial, industrial, park and public lands, and usually it also would include zoning ordinances and subdivision regulations. It represents a long-range guide. As such it must be subjected continually to a process of investigation, evaluation and modification. At best it is a continuously changing document reflecting the dynamics of the community itself.

A community program on the other hand is concerned with the detailed steps and schedules for carrying out this plan. It involves analyzing the prospects of economic growth and change that will provide the basis for public and private investment to meet community needs; it makes an assessment of the administrative financial and legal resources needed in the process of implementing the plan, and it provides a careful costing of the elements of the plan. Then and only then is it possible to develop a careful time schedule for the initiation, development and completion of the plan and to assign a series of priorities to the plan requirements. In effect, the program is the mechanism by which the objectives of the general comprehensive plan are carried out. It is a staging and process document.

In education I think we can say that the preparation of a long-term plan and a program of more or less detailed nature for implementing the plan has been found most frequently in the sector of physical plant development. We have done much less well in stating goals, including middle level and operational goals, in curriculum development and personnel planning. But in this field of facility planning, when we compare education with the work of other local agencies such as parks and recreation and even public works, we fare rather well. We have worked with more precision and have developed more detailed analyses than can be found for the most part in many of the other elements of a community's comprehensive plan. Indeed, in some cases it is the one element readily available on which public policy can be based with some degree of confidence.

What we need now, it seems to me, is to recognize that education is one unit of a series of sub-systems which together make up a community's total organization. It is illogical to plan schools apart from recreation and health facilities and programs, apart from libraries and other community facilities. The schools must be coordinated and must fit into the total plan and their needs programmed along with, or, better, in concert with, water, roads and parks — both recreational and industrial.

In the past we in education have argued for the separation of powers, for fiscal independence of school boards and separate non-partisan elections. There is merit historically in many of these concerns, and I do not wish to imply a complete abandonment of these positions, but I am suggesting that to date the lack of coordination, accommodation and constructive collaboration has limited our effectiveness.

In planning for a new community it well could be that a new model of school-community planning relationships and procedures could be worked out to the benefit of both the schools and the entire community. It may be in the case with which we are dealing that this already is so, but, even if it is, it probably will take sustained effort to effect a governmental pattern which will make the implementation evaluation and modification of the original plan an activity which reflects coordinated community involvement and commitment.

But even if governmental structure is well conceived and effectively implemented, the problem of planning is far from solved. We know now that planning for people in a community simply will not work. We must plan with them. Many administrators and public officials shudder at this thought. Many have been burned badly — or so they feel — when they have sought to involve the community in the planning process. Certainly it is not an activity which is without hazards and unanticipated consequences. Certainly there also is a whole series of issues in the design of this participation.

The question of the establishment of the "proper" metes and bounds, of securing representation, of the role of the expert, of the relationship of the activities of the participants to the responsibility of the elected community officials — all these and others make the act of participation far from a panacea for community development. But without participation there can be no true community, and without broad and effective communication among community groups there can develop flash fires and even raging infernos of controversy which range group against group, neighbor against neighbor and destroy the very values inherent in the concept of community.

Indeed, the arena of educational planning is in many ways the most volatile of all in terms of participation, for it is here that different beliefs, value conflicts and the anxieties of the community can find the largest number of issues around which to focus controversy. From sex education to pro-communist books, from Dewey to Rickover, from neighborhood schools to education parks, the schools stand in the middle of the crossfire of conflict. And the new community may be most vulnerable, for in a sense it is no community.

Community implies continuity, the presence of social norms, the presence of communication networks, the development of relatively stable social arrangements. All these require time and continuity of human interactions and relationships. The new community is most apt to be unstable, for there is a lack of history, of persons with roots. Or, conversely, if there is a small, old-time resident group, this group, in every way it can, may seek to resist being engulfed by the hordes of newcomers with new ideas, new standards, different aspirations. A city that is to be more than a collision of people, an aggregate of integers, must develop common purposes, common aspirations and a communion of spirit.

In this quest the school must play a major role, for if our earlier analysis is correct, the school, whether it wills or not, is on center stage. How will the school succeed in this role? It is too soon to predict, and certainly those of us coming in for a few days scarcely could dare hazard a guess, but this meeting itself augers well. Given the leaders who can think boldly of the long-term future, who can plan and who can play a political role of a high order, the opportunity for a community to come into being — which by its very vitality and respect for human values may shame the near jungle that so many of us know and live in — is exciting to imagine.

THE SCHOOL AS A PRIMARY INSTITUTION

ELI M. BOWER

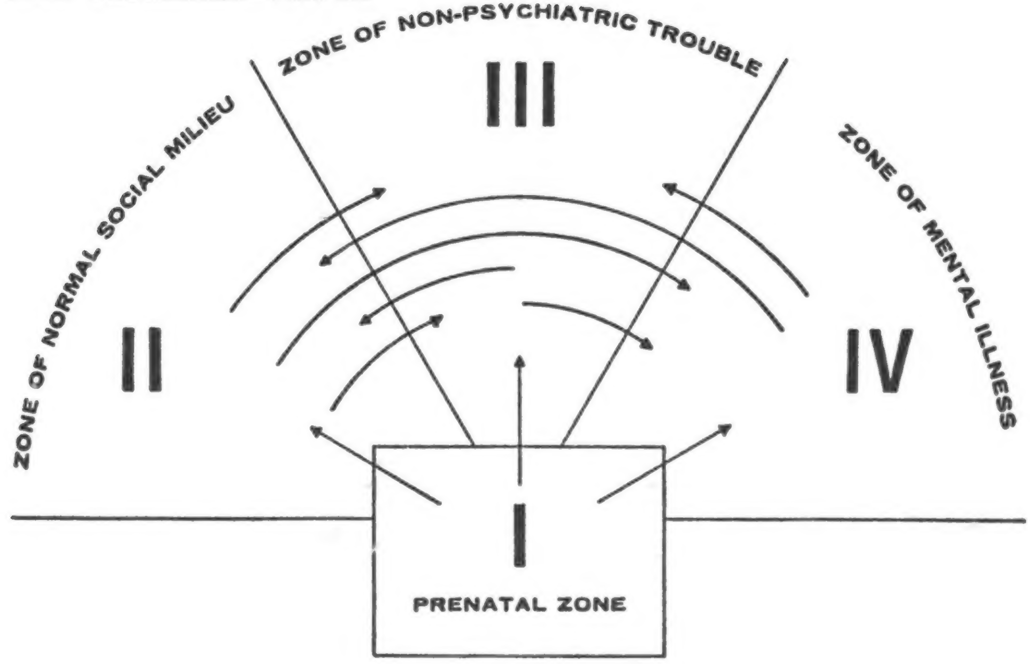
One of the problems that concerns human society is that the human organism is not born human. He has to learn certain things to become human. In our wisdom or despair we have, over a period of time, set up certain institutions to do this job. I think in attempting to deal with the problem of education as it is today, it is necessary to look at how things fit together, and I want to examine the broad picture before we get down to some of the details.

I've been interested in why it is that so many people have so much difficulty functioning in our society. Where are we falling down, and what kinds of cracks are there in the human institutions that we provide? What's more important, how can we make these human institutions more enhancing to people? How do we make more human beings better human beings? We are the only species able to be human, and that's what we want to be, it seems. But we recognize the fact that it takes some doing to make a human being out of a potential human being.

A child is not human simply because he is born. Something has to happen. He has to undergo certain kinds of experiences for him to learn to function in our society, a society in which the degrees of freedom are getting much less (especially if you are out on a freeway at 5 o'clock). We have tried to conceptualize what kinds of human institutions there are and why we have them. What are they supposed to do? How are they changing, and where does the school fit into all this?

One of the ways we can look at our institutions is as follows: We have set up certain procedures to help the whole process of birth. In some places it has to do with arrangements for midwives. In some places it has to do with hospitals. We have found that the picture of Louise Reiner in the "Good Earth" going out to the fields to have a baby, then picking it up and going back to work just doesn't happen any more. Certain institutions are necessary in this area of pregnancy and birth; and our society tries to provide for these needs, more or less. They are inadequately provided for in many cases for lower socio-economic groups and sometimes for middle-class groups as well.

Zonal Classification - PEOPLE


ZONE OF NON-PSYCHIATRIC TROUBLE
III
ZONE OF NORMAL SOCIAL MILIEU
II
ZONE OF MENTAL ILLNESS
IV
I
PRENATAL ZONE

Zonal Classification—SERVICES

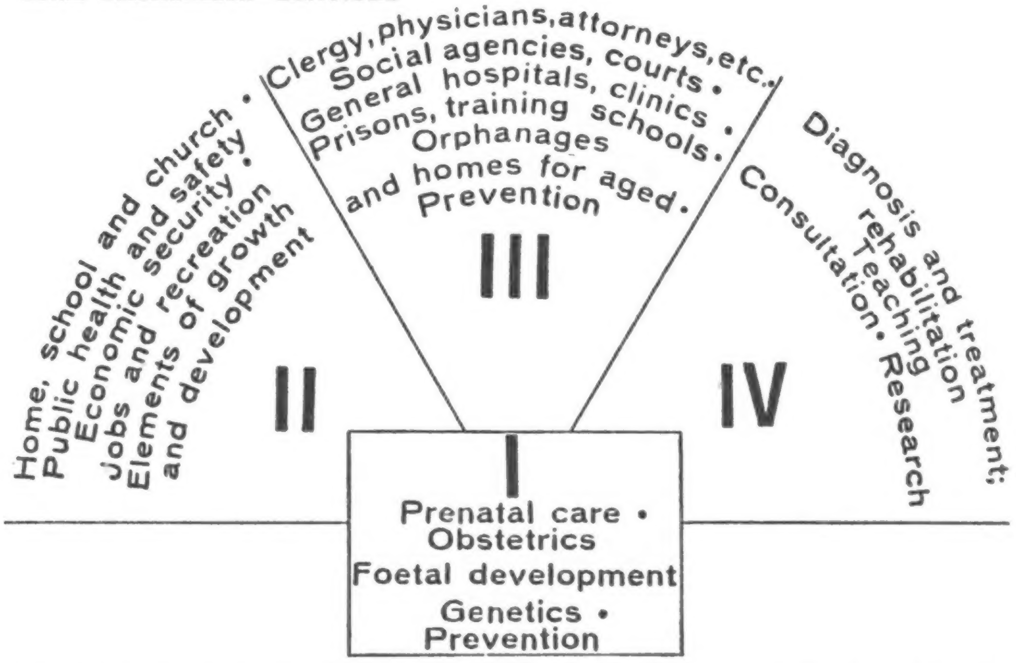

Clergy, physicians, attorneys, etc.
Social agencies, courts •
General hospitals, clinics •
Prisons, training schools •
Orphanages
and homes for aged.
Prevention
III
Home, school and church •
Public health and safety
Economic security •
Jobs and recreation
Elements of growth
and development
II
Diagnosis and treatment;
rehabilitation
Teaching
Consultation • Research
IV
I
Prenatal care •
Obstetrics
Foetal development
Genetics •
Prevention

FIGURE 1. Zonal classifications of people and services. These are indicative, rather than inclusive. From Daniel Blain, M.D. Copyright, The American Psychiatric Association. Reproduced by permission.

The child is born; he begins to function in institutions which I characterize under Group I. These we call primary, for no good reason except that we have to differentiate them from others. These are the institutions which are available to everyone. Actually, all of us function in them most of the time. The family, the school, the recreational institutions, the religious and philosophical institutions, the work institutions and public health institutions, and that's it! These are the so-called basic humanizing institutions of our society. You've got to find a place for yourself in these institutions if you're really going to make this a good life. Freud, I think, made the point that there are only two real objectives in growing up — to learn how to love and to work. People are growing up in our society who seemingly can't learn to do these things for a number of reasons.

I guess that along the way it became evident that some people couldn't make it and needed some extra help; so secondary institutions were started. One way to think about them is that they are for people in trouble of one kind or another. For the most part these services include physicians, with the exception of the pediatricians who may work with children in a positive way and continue to work with the family as a health adviser. You go to most physicians, with the exception of a regular checkup kind of service, for the purpose of getting help for some ailment. Attorneys also are used in this same sense; and law is just like a set of rules in a football game — you never deal with the rules themselves, you deal only with those who transgress the rules. Lawyers who draw up wills and other papers are perhaps in primary services. But for the most part you're always dealing with law in a negative way, because somebody broke it or is being sued or is sueing. You can't legislate thinking, but you certainly can make it difficult for people to think in certain ways. For example, you can change the rules of a game as they do in football and baseball. Sometimes, however, it's very difficult to enforce new rules. The rules get changed as the people begin to understand the need for such changes. I think we're all caught up in rule-changing and value-changing. It's one of the basic issues of our society, involving political and social pressures and citizen participation.

Figure 1 presents a framework for the manner in which society functions, and shows how this framework relates to a functioning methodology for prevention. It is presented here for discussion.

Questions and Answers — I

Q: When you refer to these as the primary things, isn't law part of it?

A: Well, you see, that's what I'm trying to get at — the positive aspects of law seldom are utilized in a primary sense; it's always in a secondary sense. When do you come in contact with the law? It's only when you get into trouble. A number of attorneys talk about "preventive" law. How do you manage things so that you don't get into "trouble with the law?" Also, some physicians serve in a primary sense, like pediatricians acting as public health physicians who work in well-baby clinics and are available to everybody. You don't need a sick child to function as physicians. In fact, they don't want you to come with a sick child; they want to enhance the growth of well children. And this, of course, is meant for the entire population.

Q: I should like to refer to your earlier comment about when you have a baby and it needs to be humanized and made into an effective human being. It seems to me that one of the significant points is not that he transgresses a lot, but, rather, that he knows the legal parameters in which society operates.

A: Yes, but that's the point. Where and how do these parameters get translated? Often they are translated as moral imperatives, not as law. We need to talk to kids about law, find out what they think it is and what they know about it. It has no relationship at all to what they do. It's interesting that we have fixated ourselves onto the subject of law. Last year I did a study of the games that children play in various countries in relation to why it is that certain children do not or are not able to accept the rules and regulations by which society has chosen to order itself. You will find in the games of children the essence of legal procedures in that children get together and make certain decisions as to how their games will proceed. You can't play any game unless you accept the rules and regulations. And, in games, no adults are around to say these are the rules. Children seem to be able to do this marvelously well if you leave them alone. Rules are the essence of fair play. One cannot take a knight on a chess board and use him as a bishop. Play cannot go on if you do. More of what is called law comes in where we have contact with the law, which usually is in a court. The property relationship comes in here also.

Q: Do you put that in here?

A: You mean ownership of property? Yes, I think that comes in here. Whose toy is that? Who owns this? In a family there is a certain kind of moral and legal differentiation of what is mine and what is yours. This belongs to me; that belongs to you. Dad uses Right Guard; everybody uses Right Guard. It goes on in a variety of ways. It goes on in the school in the primary institutions. This is your desk, your seat; we have responsibility for the school building. Much of what we call the understanding of law comes out of these concepts.

Q: It seems to me, Dr. Bower, the list of institutions on the left are developmental institutions.

2

A: Yes, they help develop the human organism into a human being. We have institutions to help people get back on the track when they get off. These we call "people in trouble institutions." When people get into serious trouble we keep them out of society in prisons and hospitals. Gradually people get pushed out of society when they have difficulties. We try to help them get back through secondary institutions. As a matter of fact, the notion of health and effective living is to be able to work and live in a family, to go to school, to use recreational facilities, etc. When you find yourself not being able to do this you can get pushed almost directly into other institutions, the secondary ones. If you gradually become less and less capable, you may find yourself in the tertiary institutions.

The whole point of this chart is that we very much should like to wipe out the secondary or tertiary institutions or reduce them to a bare minimum. Any society or community which has a large need for these institutions has significant chinks in its armor. The primary institutions are basic — when they fail the others must pick up the slack. If we have a need for mental health facilities or a need for other kinds of facilities, what is happening in the other institutions?

If you want to dream a little, imagine a society which would not require attorneys. This is almost too good to be true. Or imagine physicians who are just interested in the health of people, not in ill health. This is what physicians in the Hippocratic sense were supposed to be interested in. In the old Chinese culture the physician was paid when the individual was healthy. He was not paid when the individual got sick. Government attempts to fill in at every level. Government takes the place, when necessary, of family. It provides schools, jobs, etc. Actually, government is the rule-setting agency. It is the only agency which encompasses all the others. This in essence is why it's involved in the whole business.

We come down to the basic agencies with which Litchfield Park will be involved. This will be a school immersed in a total community. The thing I've been interested in as I read over the material I got from Dr. Moore is: how would you set up a system to reduce the probability that people in Litchfield Park would have need for secondary or tertiary kinds of services? How would you make this community one that enhances the individual so that he can take all kinds of stress and deal with the changing pattern of life more effectively?

Three institutions must be taken into account in the primary area: the family, school and community. Each of these institutions has had, in the past, a basic function. They were set up to do a specific thing. They just didn't come about by chance.

We knew, or somebody did way back there, that a child had to have support, affective nutrient and effective relationship; so we devised the institution of marriage. Some of you may like this institution; some of you may not, but as far as the child is concerned it's a very important one. It keeps two people on the job. It provides for a certain amount of differentiation of labor and it enables one adult to be with the child and oversee his growth and development.

The family has the basic function of seeing to it that certain kinds of learning get into the child. We're finding that parents are very effective teachers whether they have a credential or not. The more effective they are the better off the child is when he gets into the next institution.

The school was set up originally to do a very swift job of training and was started when the family felt that it was no longer able to do it at home. Many parents did not know how to read themselves. The institution of a common school was devised and instituted in the U.S., and, I suspect, it's been one of the significant inventions of mankind.

I recently spent some time talking to a group of Canadians about the problems in Canada. One of the things they had hoped to develop many years ago, and which now is almost impossible, is a common school. There are at least four different types of schools in Canada. Each group sends its children to the school to which it belongs; so there is a kind of inbreeding of groups and a separating of groups because each group, instead of learning about the others, has its own particular biases reinforced by the school system. I suspect the wisdom of Jefferson and some of the others who suggested the notion that all children go to a common school has been one of the bulwarks of this primary institution setup in the United States.

Questions and Answers — II

Q: But don't we have at least three different types of schools?

A: I know, we still have private schools and parochial schools, but our basic governmental policy is that taxes be used for the public school. Parents are free to send their children to private schools if they so desire. We still have a significant private and parochial school population in the United States.

In Canada, one pays taxes to the school that his children will attend. There is a great deal of effort in the U.S. to unite the public, private and parochial school sector, and I think in the future we will see more of this. I think we're beginning to see the need for differences among the students as an important educational component of an institution. Otherwise students are just looking at mere images of themselves.

We have no other way of grappling with the varieties of experiences needed in life.

I think this is one of the problems that state universities face as they begin to feel the full impact of student enrollment, and they need to have fewer and fewer out-of-state people. They will be getting more people from their own regions and less and less variety in their institutions. I don't think this is a good idea. The state universities ought to become more national in their scope. Boundaries set up for states in the old days are just not meaningful today.

Just one footnote on the Canadian situation: I was talking with a French separatist who was very much in favor of Quebec pulling out of Canada. I said, "How can you fellows have lived together as one country and yet be so different in outlook and values?" He said, "The point is we have a different culture and a different way of life." "Well," I asked, "how could you maintain a different way of life and live together in the same country all these years?" He said, "Well, we have different schools."

I think he probably is correct. They have been able to maintain the French-Canadian way of life in the middle of the Canadian culture because by and large there never was any integration or locking together of these different ways of life. Canada and the United States started out at about the same time. The avoidance of placing our children into separate schools was one of our major strengths. The common school provided a large burner for the melting pot of cultural assimilation.

The family and the school have cultural transmission goals. The school has the opportunity to use a variety of experiences. This may not happen in a family because the family's relationship to the child may be a very close and emotionalized one. It is only by allowing the child to match his thinking and pool it with other children that you get a kind of commonality of mankind. The ego process of conceptual expansion is the essence of education. It is the ability to go from liking mother to understanding and liking all people. One needs a variety of contacts with people to learn the concept that people are different and that they don't have to be all the same or think the same for one not to be frightened of them.

An interesting book by a Princeton professor named Machlup is called *The Production and Distribution of Knowledge in the United States.* Machlup is an economist who deals with the gross national product and other types of social accounting. His notion is that the greatest change that has taken place in the development of man has been in the production and distribution of knowledge. We're gradually changing from a society where we used to spend a lot of our time in the production and distribution of food to a society where the production and distribution of knowledge is now the major human enterprise.

I think many people miss the implication of this trend. What does it mean? First, it means that man is dealing with a different kind of commodity. In a society where the production and distribution of food was the primary activity there were lots of things for people to do by hand or by simple machines. There were a variety of jobs for people who did not have adequate educations because our society could use them. But what's happened in 50 years? We've wiped out, through technology, the ability of uneducated groups to participate in society. We now have machines that will replace at least 12 years of what we used to call education. This should not be frightening. I think it's a good thing, but it points the finger at the fact that the liberating force in the next generation must be education because the whole structure of life will be based on the transmission and use of knowledge.

When I use "knowledge," I agree with Machlup that we're not only talking about knowledge of history or knowledge of mathematics but anything that can be transmitted in symbolic form. Knowledge is a system of symbols. Such symbol systems are man's greatest achievement. We had a carpenter come into our house to finish a basement. I tried to get some idea of how he would go about doing it. First, he asked what we did down in the basement. I wanted to know what that had to do with it. He said it had a lot to do with it. This is a house. You don't want to just put boards on the walls without paying any attention to what people do here. He had other questions. I said, "Why don't you just come down and put the boards up?" "Well," he said, "I'm not that kind of a carpenter; I'm an educated carpenter." He was concerned that what he did should be related to how people used it. He conceptualized his task beyond the skills. He could have put up the material without conceptualizing its meaning. In that case he would be, in my judgment, a good technician. This is how I differentiate.

Many people know how to do technical things well but they have no notion of what they're doing in relation to people. Schools actually are in the business of the wholesale transmitting of knowledge; since we have a common school, the price is paid by the community. But, of course, the school is not the only institution involved in this. There are television, radio, books, movies and a whole array of media for transmitting knowledge to people. Take the book industry. There has been a tremendous rise in reading and in purchasing books in the United States. A few weeks ago I was at Harvard where they have a book store which is open 24 hours a day. You can go there at 2 o'clock in the morning and buy a book.

The significance and support of libraries is growing by leaps and bounds. How do you set up libraries in metropolitan areas? Here is another institution that is expanding like a balloon. Someone pointed out why books are so much more effective than other media as transmitters of knowledge. You have a certain freedom of choice with a book. You can carry it in your pocket, take it out and read it at any time. The amount of enjoyment which you get out of a book is a function of the degree of imagination which you put into it. There seldom is much imagination that one can put into television watching.

As far as the colleges are concerned, 50 per cent more students will be in them by 1970. I know Arizona State University and some of the other colleges here will be facing this onslaught. The state legislature will be facing this. How do you educate people to face this fact? Do you build on to institutions, or do you start new ones?

Public school enrollment will increase 50 per cent in the next few years. Not only will we have this enrollment increase, but the school is being extended both downward and upward. Project Head Start simply is a manifestation of the need to get some groups of children, perhaps all groups of children, involved in the conceptualization of the world in which they live at an earlier time and in a more effective way than is possible in some family institutions. Many nursery schools were built on the old notion that play is the essence of preparation for work in school, which I think is still correct, by and large. One of the problems in the child's world today is the complete negation of play. In the old Puritan tradition, if you're playing and having fun, you can't be doing anything worthwhile.

There's a very interesting book by an old Dutchman named Huizinga, written around 1903, called *Homo Ludens* (Man, the Player). He points out that societies are built upon certain kinds of play activities. Play is one of the essentials of the primate animal. This is verified by many of Harlow's studies with monkeys in which he found that the most deprived, the most unhealthful kind of thing you can do to a young monkey is to take away his opportunities for play. If you take him away from his mother, but allow him to play, he seems to be able to function as an adult. He is able to carry on sexual and other adult activities. If you deprive him of play, even though you keep him with his mother, he seems to grow up to be a very immature, very incompetent kind of monkey.

All societies give children opportunities to play in different ways. In Spanish-American society, for example, much of the play takes place in an expanded family group. It makes for difficulties when such children get into a peer group kind of activity. The transition is very abrupt for them. Many of our kids, for example, go out in the street and play with anybody well — mostly kids around the neighborhood — but it doesn't make any difference to them so long as they are within a general range of competence in a particular game and can have fun in it. It prepares them for the time that they will be working with other kids and other kinds of activities. For our children, the peer group is still the major society in which they learn to function.

As adults we're so concerned with children achieving that we allow them little time to play. I have no objection to achievement, but I do object to presenting life to children in such a stressful way that they have to get started on the serious business of going to school before they really have found ways of mastering play skills. A child who can play effectively has a certain amount of social competence in the environment. It stands him in good stead as he goes through life. There is nothing more satisfying than to know that you can play at things well. If you can't, you may find that work is a very difficult thing.

We could spend a whole session on play, but let me go on with this knowledge bit. The knowledge explosion is happening in the advanced Western culture countries; it's not happening yet in the African countries. The emerging countries still have the problem of production and distribution of food. In both settings the school as a social institution no longer can simply transmit knowledge. There is too much knowledge, and we don't live long enough to pump all this into us. If we consider the school as an institution in which we're going to pass on all knowledge — the history of man, the development of man, the mathematical symbols, the languages, the scientific, physical and social behavior, etc. — life just isn't long enough for all this. Besides, the more knowledge we have, the more we produce; and the more we produce, the more we know, so that research and dvelopment probably has become one of the biggest enterprises of government, industry and other types of production.

To make a long story short, we need social institutions which can make children knowledge processers. Children need the ability to take on new knowledge, the ability to manage new knowledge, the ability to discard knowledge, the ability to organize it and the ability to evaluate it. The human being must be conceived not as something into which you must push knowledge. You are not going to cover the course — there is no such thing. You've got to extract the organizers in a particular field of knowledge and somehow or other build the organizers of that knowledge into the organization of the individual child. He may not know everything there is to know about history, but he should know how to think as a historian. He may not know everything there is to know about the physical sciences, but he should be able to organize and deal with knowledge in the physical sciences. He may not know everything there is to know about the behavioral sciences, but he should be able to think about and organize knowledge in this field.

One school which very much impressed me in this regard was at Fort Lauderdale, Florida, called the Nova School. In the first place, there are no classrooms, per se; there are instructors with whom students work, and there are classes they attend, and they have lectures that instructors give at certain times. But the core of the program is an information processing center situated in the middle of a building where the children learn how to grapple with knowledge. They must get it themselves. There is no spoon feeding. What the lecturer does is conceptualize how one would grapple with this kind of knowledge. The students are given the basic conceptual framework around which they can go to work. In the Knowledge Center are books, cards and other information which they can retrieve if they work on projects. If they work on projects, the material that they develop also is kept on cards so that other students can use it. It's not just each student for himself. There is no semester where everybody starts and finishes at the same time. Each student goes at his own speed, and if he thinks he can do more the instructor will help him organize and learn a higher conceptual level in the subject matter with which he's dealing.

Questions and Answers — III

Q: Is there an informal relationship among students outside the assignment structure?

A: A tremendous amount. You go through the school and everybody is talking to everybody else all the time. It's hard to see anything going on which is in any way formal. Occasionally you see a class with a group of students listening to somebody.

Q: How is this play and recreation aspect that you were emphasizing a while ago managed?

A: That's an interesting question. The school started with the old notion that the students were going to be working hard so they wouldn't want a football team. Well, they did. They decided they were going to have a football team, and they were going to have all these other things, and they now have them, much to the chagrin of the faculty. The faculty said, "Well, it's up to you if you think you want to spend time on that." Last time I was there they were having a rally just like any other high school.

Q: What numbers are involved?

A: Oh, they must have about 2,000 children. They have children with 90 I.Q.s, 100 and on up. The 90 I.Q. kid, I think, has a better chance in this kind of program.

Their problem has been, the principal told me, that the children are not accustomed to this kind of learning. It takes adjusting from the old system. If they don't make it, they always can go back to a regular school. Yet they have fewer dropouts than they do in the other schools. First of all, it's an experimental school. It has half a million dollars from the Ford Foundation and a tremendous number of enthusiastic young teachers.

Q: We had a very eminent man on our campus some time ago and his research in dropouts indicated that if all the dropouts that he had talked with could speak with one voice, they'd go by their high school and say, "There isn't one damn person who cared about me." How do they handle this there?

A: Surprisingly, they don't have a counseling and guidance staff of any great size; but, you see, the relationship to the instructor is always on a one-to-one basis. I think this is a much sounder way. You have to set up a counseling and guidance staff because the rest of your institution is so distant and difficult for the student.

I sat and watched an instructor talking with a student. He said, "Do you think you have enough time to do this?" The student said, "Well, I don't know, but if I get stuck we'll talk about it again." The relationship with the basic staff is much more face-to-face in this school.

Q: Do you have any idea what the teacher-pupil ratio is?

A: Well, it's hard to say; they have some classes of 200.

Q: I mean dividing the total student body by number of staff.

A: It's no different from other schools.

Q: We've been talking about grading. Traditionally, the school is a series of hurdles over which the student has to propel himself. If you adopt this sort of curriculum procedure and do so at all levels, you in a sense internalize the immediate goals of the student rather than externalize them, do you not?

A: Right.

Q: Is this likely to produce an increase in stress?

A: No, I think it's likely to produce a decrease in stress. But it will produce an increase in stress when there is a transition from one social setting where the transmitters of knowledge (teachers) carry the ball all the time. You can't become an information processer if someone else is doing the processing.

The school has been such a passive organization in its relationship to children that the people who transmit the knowledge do all the action. There is little action for the child, except that every once in a while he re-enforces the ego structure of the instructor by making it apparent that he listened, understood and was able to return what was thrown at him.

People get all excited about cheating and its increasing frequency in school. How can there be cheating on an examination? If someone has developed an examination where he wants the same response from everybody there certainly can't be much thinking going on. On the other hand, if you really have taught something, as I conceive it, then you would like to know how the individual has conceptualized it and how he might use it in terms of his own perception of life. So how can there be cheating if this is the goal of learning?

Q: How would you relate this to programmed learning?

A: Well, programmed learning is no different from other kinds of learning. If you want to teach basic computational mathematics or basic grammar, or anything which has certain set rules, certain set ways of thinking or things of that kind, I imagine you can program a machine to do this. A machine is no better than its program.

Q: Is this type of schooling (Fort Lauderdale) more expensive?

A: I don't think so — especially if you consider the return on the investment.

I think we've changed the notion of intelligence which we used to have. We still talk about overachievement and underachievement as if there were a line where one could say, "This is where this person can achieve up to and if he doesn't achieve up to that he's underachieving." I don't know what overachieving is; it probably means he is running faster than he is able to. A quantitative notion goes into this — that everybody has a basic innate ability and he should be working up to it. I think we're beginning to see that there is no such thing. A lot depends on the early conceptualizing experiences around which knowledge was bound within the individual. Growth is an extremely flexible thing, given certain kinds of experiences, and it isn't a matter of filling up to any capacity. The notion of capacity is a metaphor that has constricted us somewhat in our thinking. There are boundaries and areas of development that we really have not explored.

Q: Do they grade students at Nova?

A: Oh, yes, they grade them, using stanines. You can get a 9, 8, 7, 6, 5, etc. on the basis of how well you completed your assignment.

Q: What's the comparison?

A: Understanding the content of the knowledge. The goal is the ability to organize and deal with knowledge.

I think that part of the problem, when you look at the social system of education, is that the way we have organized knowledge in the past has almost made it a reactionary kind of enterprise. This is most evident at the college level. The colleges are perhaps the most singularly unenterprising institutions. They are able to go outside and do very well, but to look inside is to look into a darkened room. If I were given the choice of making changes in colleges and making changes in the United Nations, I would choose the United Nations. I think this is a reflection of how we have dealt with knowledge in the past — that our institutions which are supposedly in the business of transmitting knowledge are the least able to adjust to new knowledge.

Of course, the business of clock hours sends a tingle up my spine because it elicits the conception of knowledge as something that is gobbled up over a period of time. You have to have one course after another as in a gigantic meal, and you just can't do it in a short period of time — after which you have indigestion. Knowledge is conceptualized by that very statement: clock hours. How many clock hours have you had? It makes no difference if you just sat there. You've served your time.

Some very interesting experiments are being made at the University of Chicago. Robert Hess and Virginia Shipman have been doing a study of the relationship of children's effectiveness with knowledge as a factor of the parent-child relationship. And you come back again to the differences in socio-economic levels and what happens to children in some homes. They use an experiment with an Etch-a-Sketch, a toy which has two knobs. One works a little pointer on a vertical base and the other on a horizontal base. You can copy designs on it and then erase them. You put the mother on one knob and the child on the other knob and get an idea of how they relate to one another, how they communicate, how they transmit knowledge back and forth. This can be done only with words. You observe whether the transmission of knowledge from the mother to the child makes the child a better knowledge processer or whether it immobilizes him.

One experiment, for example, has to do with sorting a variety of objects by color. The experimenters had a bag full of toys, and the mother was asked to help the child sort them out by putting the red colored things here, the blue colored things here, the white colored things here, etc. When you watch some of the mothers approach this you get an idea of why some kids come to school almost unable to deal with knowledge. There is no mediation of concepts. There is no binding by which the child can grapple with objects, events or ideas. One mother explains the conceptual basis of the sorting while another mother does not. In the latter case no learning has transpired.

Part of the flood will be made up of this tremendous increase in knowledge. There is, however, another concept of human activity which I call public health action. You don't deal with malaria by treating malaria patients; you deal with it by finding out something about the swamps where malaria develops. The public health approach always has been to look at the life cycle of a disease and to find a point of interception which will prevent the difficulty from occurring in the first place.

We need to look for ways to enhance the health of people so that they are able to deal with stress more effectively and deal with some of the pathologies in the environment, one way or another. This approach is becoming mandatory. It's impossible to deal with problems on a one-to-one basis. There are not enough people — there never will be enough people — to deal with remedial needs, with treatment needs, with the kinds of people who get into these number 2 and number 3 areas. It becomes very necessary, then, to conceptualize what a school does in a public health oriented way — which is, where are the swamps students fall into, and how do we drain the swamps so that we get less failure in the system. We've been working on this, and we have some notions of how it might be done. Sometimes I think it's very simple, and maybe that's why people don't think about it.

A project in South Carolina is being conducted by the South Carolina Mental Health Commission and Sumter, S. C., public schools. First, the staff members go into the community, and they say to the parents, "Your children soon will be going to school in this community. We have a group of people who are available once a year to assess the children and to talk with you about ways of enhancing and increasing your child's success in school."

They want it. You're talking about something positive. You have a series of meetings with the parents of three- and four-year-olds in this community. You see the parent; you see the child. You talk to the father. You get some notion of what is going on, what kinds of strengths the child has, where his major thrusts as a human being are.

The staff members identified certain groups of children where there were certain kinds of needs that were not being met in family life. They found a number of children with beginning speech problems and a lot of children who needed additional socialization experiences. In the latter cases these were groups of kids who were somewhat isolated, who didn't have a chance to play with other children because of a number of factors. Sometimes the parents were apprehensive about play, or the family lived in an isolated area of town.

Here's the point. To identify this developmental gap before it really had become a significant problem, they went to the recreation department and said, "Here is something you could do. We have a group of children in town that need extra help in the field of recreation. They need additional play, and it's very important that they have this. Could you do something in this area?"

The recreation department was overwhelmed by this. It hadn't even thought that this was something they were involved in. It went to work on it. It had cars which picked up the kids. It worked with some of the school people in setting up the kinds of experiences these children needed. They were play experiences, not planned curriculum experiences. The important thing is that it also changed the institutions in this town. The recreational institutions now conceive of themselves in a different way. They have a relationship to the human goals in that town.

There also were speech problems with three- and four-year-olds. After identifying speech problems at this level (you know these are beginning speech problems), some of them are not worth bothering with. They disappear in time, but the point was that some of them might not.

Staff members considered the possibilities of hurting someone if they got a group of parents together and gave them a little bit of help on how to help children with speech difficulties. Consequently, they got a group of parents together (some of whose children did not have speech difficulties) with a speech therapist from the public health department of the town. They made sure that the mothers who really needed the help would come. And they had these meetings on a weekly basis. The mothers would go home, and they would try the speech exercises and then go back and talk about the success or failure — and return the following week, and pretty soon a larger number of mothers wanted to come.

But think of the two interceptions at this point. They were not interceptions based on problems; they were interventions based on building strengths. They were based on a positive kind of intervention prior to the time the child got into any difficulty.

This is the kind of activity a community like Litchfield will have to consider in its total approach to education. You have this marvelous opportunity to really build in this kind of anticipatory look at children and to assure each child an adequate education.

APPENDIX A

Arizona State University
College of Education
LITCHFIELD PARK PLANNING SEMINAR

November 29 - December 3, 1965

THEME: Planning for Education in Litchfield Park in 2000 A.D.

Monday Evening, November 29

6:30 p.m. Reception and Introductions — Saguaro Room
7:30 p.m. Dinner — Dean C. D. McGrath, Presiding — Turquoise Dining Room

Tuesday, November 30

Dr. R. Merwin Deever, Presiding
8:00 a.m. Breakfast — Turquoise Dining Room
8:30 p.m. Address — George B. Leonard
8:45 a.m. The Seminar Organization — Dr. Harold E. Moore
9:00 a.m. Presentation — "The Plan for Litchfield Park"
Mr. Patrick Cusick
Mr. Mike Cartsonis
Mr. Edgardo Contini
10:00 a.m. Questions and Discussion
Interrogators: Mrs. Carol Lubin
Mr. Don Hutton
Mr. Jonathan King
10:45-
11:15 a.m. Coffee Break — Bungalow 43
11:15 a.m.- Discussion of Mr. Leonard's Presentation
12:30 p.m. Interrogators: Dr. Cyril Sargent
Dr. Howard J. Demeke
Dr. Walter Crewson
12:30-
2:30 p.m. Lunch and Recreation
2:30 p.m. Dr. Howard J. Demeke, Presiding
Presentation — Mrs. Carol Lubin
3:30 p.m. Questions and Discussion
Interrogators: Dr. Charles O. Fitzwater
Mr. George Leonard
Dr. R. Merwin Deever
4:30-
5:30 p.m. Open Discussion — The Seminar Membership
Discussion Leader: Dr. Harold E. Moore

Wednesday, December 1

9:00 a.m. Dr. G. D. McGrath, Presiding
10:00 a.m. Questions and Discussion
Presentation — Dr. Walter Crewson
Interrogators: Mr. George Leonard
Mrs. Carol Lubin
Dr. Harold E. Moore
11:00 a.m. Coffee Break
11:30 a.m.-
12:30 p.m. Group Discussion
Identification of Social and Educational Problems Associated with the Projected Planning in Litchfield Park.
Discussion Leader: Mr. Edgardo Contini
12:30-
2:30 p.m. Lunch and Recreation
2:30 p.m. Dr. Harold E. Moore, Presiding
Presentation — Dr. Cyril Sargent
3:30 p.m. Questions and Discussion
Interrogators: Dr. R. Merwin Deever
Mr. Don Hutton
Mrs. Carol Lubin
4:30- Open Discussion
5:30 p.m. Discussion Leader: Dr. G. D. McGrath

Thursday, December 2

9:00 a.m. Dr. R. Merwin Deever, Presiding
Presentation — Dr. Eli Bower
10:00 a.m. Questions and Discussion
Interrogators: Dr. Cyril Sargent
Dr. Howard J. Demeke
Mr. Jonathan King
11:00-
11:30 a.m. Coffee Break
11:30 a.m.- Relationships of School and Community Planning to Mental
12:30 p.m. Health
Discussion Leader: Dr. Charles O. Fitzwater
12:30-
2:30 p.m. Lunch and Recreation
2:30 p.m.- Dr. Howard Demeke, Presiding
4:15 p.m. Sharing of Experiences in Educational Planning
"Success and Frustration"
Dr. Walter Crewson
Dr. Cyril Sargent
Dr. Harold E. Moore
Mr. Patrick Cusick
Dr. Eli Bower
Dr. G. D. McGrath
Mr. Edgardo Contini
Mr. Don Hutton
Mr. Jonathan King

"OFF CAMPUS" Trip and Dinner, Leave at 4:30 p.m.

Friday, December 3

9:00 a.m. Dr. R. Merwin Deever, Presiding
Summary Panel: Dr. Charles O. Fitzwater, Chairman
Dr. Walter Crewson
Dr. Cyril Sargent

10:30-
11:00 a.m. Coffee Break

11:00 a.m. Identification of Specific Problems with Attention to a Priority of Action by the Survey Staff.
Discussion Leader: Dr. Harold E. Moore

12:30-
1:30 p.m. Lunch

1:30 p.m. Individual Conferences with Consultants by A.S.U. Survey Staff.

APPENDIX B

SEMINAR ROSTER

School Board Presidents and Superintendents

Earle Rayner, President, Board of Education
Lester Kelley, Superintendent
Agua Fria Union High School
Joe Holly, President, Board of Education
L. F. Coor, Superintendent
Avondale Elementary Schools
Dr. Robert K. Hilton, President, Board of Education
A. L. Tidwell, Superintendent
Litchfield Park Elementary Schools

Visiting Consultants

Dr. Eli W. Bower, Assistant Chief, Consultation and Special Services Branch, National Institute of Mental Health
Dr. Walter Crewson, Associate Commissioner
The State Department of Education, New York
Edgardo Contini, Partner
Victor Gruen Associates
Dr. Charles O. Fitzwater, Chief
Administrative Section, United States Office of Education
Jonathan King, Treasurer
Educational Facilities Laboratories, Inc.
George B. Leonard, Senior Editor and West Coast Editorial Manager
Look Magazine

Mrs. Carol R. Lubin, Community Planner
Simon Enterprises, New York City
Dr. Cyril G. Sargent, Professor
City College of New York

Litchfield Park Properties, Inc.

Patrick J. Cusick, Jr., Vice President and General Manager
E. M. Cartsonis, Director of Planning and Design

Maricopa County

Don Hutton, Director, Office of Planning and Zoning

Arizona State University

Dr. G. D. McGrath, Dean
College of Education
Dr. R. Merwin Deever, Director
Bureau of Educational Research and Services
Dr. Howard J. Demeke, Associate Professor
College of Education
Dr. Harold E. Moore, Professor of Education
College of Education
Dr. Willard Abraham, Professor of Education
Chairman, Educational Services Department
George N. Smith, Graduate Fellow
College of Education
J. Vincent Madden, Graduate Fellow
College of Education

APPENDIX C

OBJECTIVES FOR THE DEVELOPMENT OF LITCHFIELD PARK, ARIZONA

The program for development of the new town of Litchfield Park on 18 square miles of farm land located some 20 miles west of downtown Phoenix envisions the creation of an environment, physical and social, which not only is innovative in the context of current United States development practices, but practical and enduring for many years into the future. To achieve these ends we have deemed it important to consider each of the elements which foster a rich community life, to study the trends of these elements, and then to bring them together into a development plan which provides maximum opportunity and convenience for future residents. The proper mix and arrangement of all activities will provide the necessary prerequisite for the natural crystalization of a vigorous community.

Briefly, the form of the new town is envisioned as follows: A series of six residential communities, containing a variety of housing types in as broad a range of prices as home buyers are prepared to accept, will surround a core area. The nucleus of each of these communities, housing 15,000 to 25,000 persons, will be a combination high-school/sub-regional shopping center. Here, the community's residents will have convenient shopping available, and the combination of educational, social and commercial facilities located there will provide the opportunity for nearly any imaginable program.

Throughout the residential areas of the community, elementary schools will be located where they are safely accessible to the younger children, and where their playfields can serve dual purposes: school physical education program as well as neighborhood recreation.

Surrounded by the residential communities, the core or grand commons area will serve as the central locus of activities too specialized to be supported in the communities themselves. A college center. a hospital complex and a regional shopping center are among the kinds of functions envisioned for the core. The area serviced by these facilities can be expected to extend considerably beyond the new town site.

Finally, the element that will tie the various communities and the grand commons together is a pathway system threading throughout the town. Forbidden to automobiles, this landscaped path system will provide a safe and attractive route by which residents can move by bicycle, electric cart or even on foot to anywhere in the town. Along the way they probably will pass an elementary school, a small general-purpose store or a neighborhood swimming pool, and perhaps they will skirt a small lake before arriving at the community shopping center. The convenience of this path system may preclude the need for a second family car while, at the same time, providing valuable open space for each neighborhood.

Ultimately, Litchfield Park will contain about 100,000 residents. It will include industries as well as the residential and commercial facilities already mentioned. All of these together will establish the balance which will be vitally needed to sustain the community on a relatively self-supporting basis, and to provide it with the variety which will make it livable and attractive.

PUBLICATIONS OF BUREAU OF EDUCATIONAL RESEARCH AND SERVICES

Arizona State University
Tempe, Arizona

Educational Services Bulletins

Educational Services Bulletin No. 10, "Comparative Values of Different Methods of In-Car Instruction in Driver Education," R. Craig Rover, October, 1963, 29 pp., $1.50

Educational Services Bulletin No. 13, "Fourth Annual Invitational Reading Conference Proceedings," Paul Hollingsworth, Ed., March, 1965, 51 pp., $2.00.

Educational Services Bulletin No. 16, "Report of Project Headstart in Central Arizona," Cameron Olmsted and Melvin Zinzer, 27 pp., $1.00.

Educational Services Bulletin No. 17, "Our National Crisis . . . Educational Imperatives for Survival," (Report of the Developing and Using Human Resources Conference), Warren T. Kingsbury, March, 1965, $ .50.

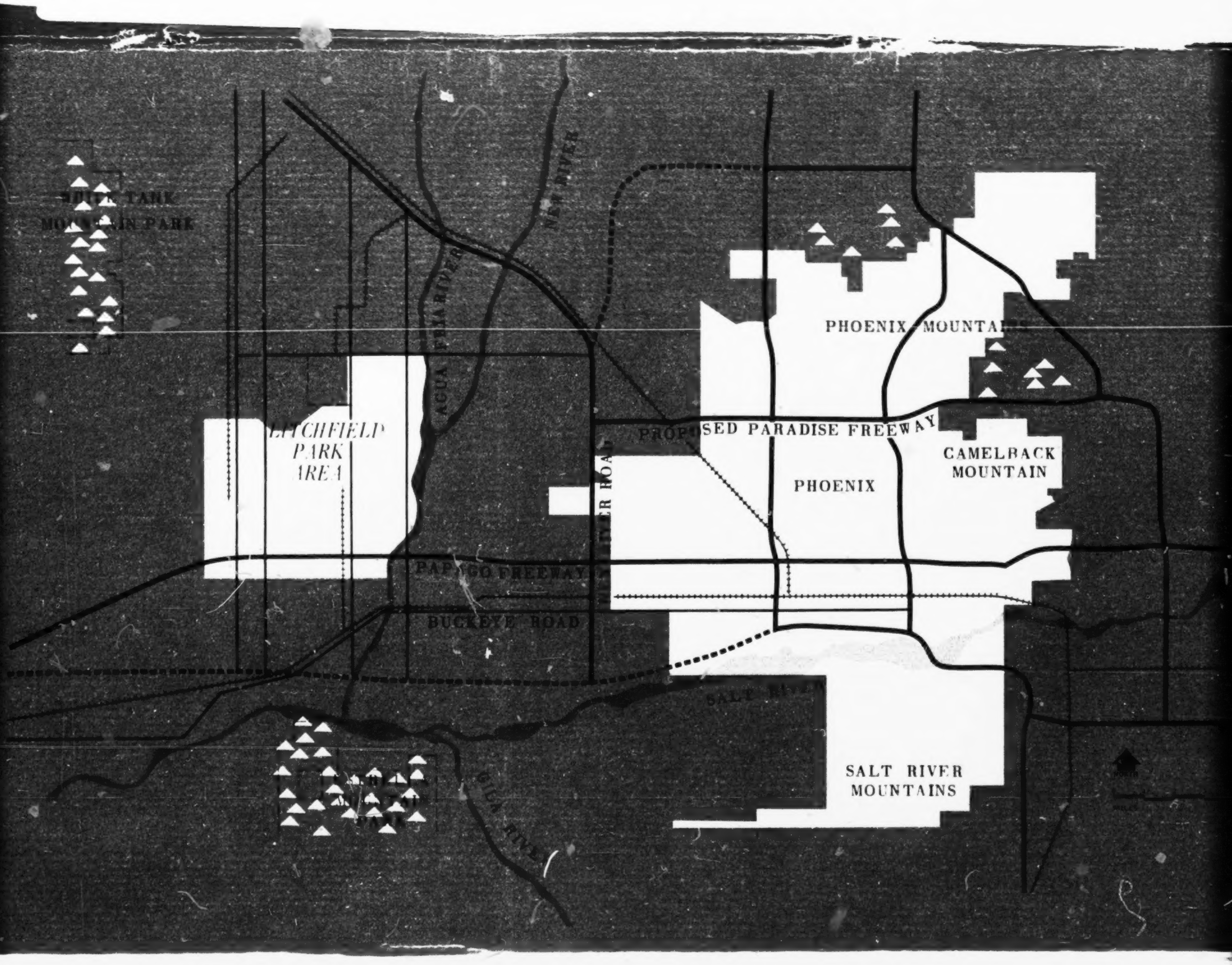
Educational Services Bulletin No. 18, "Fifth Annual Invitational Reading Conference Proceedings," Paul Hollingsworth, Ed., May, 1966, 52 pp., $2.00.

Educational Services Bulletin No. 19, "The Elementary School Counselor: A Venture in Humanness," (Summary of Proceedings of the Western Regional Conference on Elementary School Counseling), Wayne R. Maes, Ed., May, 1966, 40 pp., $2.00.

Educational Services Bulletin No. 20, "Higher Education in Arizona," H. K. Newburn and M. M. Chambers, February, 1967, 28 pp., $1.00.

Educational Services Bulletin No. 21, "Planning for Education in Litchfield Park in 2000 A.D.," Harold E. Moore, Ed., March, 1967, 76 pp., $2.00.

These publications may be obtained through the Bureau of Educational Research and Services, College of Education, Arizona State University, Tempe 85281.


WHITE TANK MOUNTAIN PARK
NEW RIVER
AGUA FRIA RIVER
LITCHFIELD PARK AREA
PHOENIX MOUNTAINS
PROPOSED PARADISE FREEWAY
CAMELBACK MOUNTAIN
PHOENIX
ER ROAD
PAPAGO FREEWAY
BUCKEYE ROAD
SALT RIVER
ESTRELLA MOUNTAIN PARK
GILA RIVER
SALT RIVER MOUNTAINS
NORTH
MILES